

# **Responses to Questions Raised in the Written Comments Received from Stakeholders Attending the Nondegradation Rulemaking Stakeholder Meetings**

Draft: October 6, 2009

Issue papers were drafted to create focused discussion around key issues at the nondegradation rulemaking stakeholder meetings. Stakeholder input was received through written responses to discussion points found at the end of the issue papers. In some cases the stakeholder response to the issue paper discussion points were in the form of additional questions to the MPCA staff. All of the comments received and the thoughts prompted by the questions raised will be considered in the development of the nondegradation rules and the supporting documents for those rules. However, in the interim, this document serves as a brief response to each of the many questions that were raised in the written comments.

The format of this document is as follows:

- Issue paper numbers and titles are in bold (e.g., **Issue Paper 5. Nondegradation Review: alternatives analysis, economic and social justification, intergovernmental coordination and public participation.**)
- Discussion points within each issue paper are underlined and numbered with the associated issue paper (e.g., Issue Paper 5, Discussion Point 7. When and by what means should public participation occur in the review process?)
- Questions related to the discussion points are numbered continuously from the first discussion point in Issue Paper 2 through the remained of the discussion points. Note that Issue Paper 1 (Introduction to Nondegradation and the Opportunity to Improve How Surface Waters are Protected) did not have any discussion points.
- Responses to questions are in italic.
- Only those discussion points where there were questions are included, unless the stating of the question is necessary for an understanding of a subsequent question.

Please note that the responses to these questions are not final, nor do they represent an official MPCA position, but rather are an indicator of current staff level thinking on the issues at hand.

The issue papers and comments received for the discussion points in the Issue Papers may be found on the Nondegradation Rulemaking Web page, (<http://www.pca.state.mn.us/water/nondegradation-rule.html>)

## Quick Reference Topic Index

<b>Topic</b>	<b>Question Numbers</b>
<b>Applicability and general implementation</b>	<b>1, 2, 3, 8, 9, 12, 13, 14, 15, 17, 18, 24, 25, 28, 51, 52, 64, 67, 70, 127, 129</b>
<b>Nonpoint sources and agriculture</b>	<b>4, 21, 22, 27, 76, 128</b>
<b>Stormwater</b>	<b>4, 28, 31, 49, 59, 61, 62, 65, 71, 93, 97, 106-123, 125, 126, 130, 139, 151-153</b>
<b>Outstanding Resource Value Waters (ORVWs)</b>	<b>50, 110, 122, 146-150</b>
<b>Level of protection (Antidegradation Tiers)</b>	<b>5, 10, 24, 29, 34-36, 38, 44, 46, 52, 53, 60, 69, 70, 80, 115, 124, 149</b>
<b>Determination of high water quality (requiring Tier 2 protection)</b>	<b>6, 34-36, 38, 46, 53, 57, 60, 70, 124</b>
<b>Parameters of Concern (POCs)</b>	<b>48, 49, 88, 89, 113, 121</b>
<b>Review triggers and determination of “significance”</b>	<b>37, 63, 66, 68, 72, 108, 109, 114-116, 118, 136, 138, 139</b>
<b>Cumulative impacts</b>	<b>68, 131-137, 141-144</b>
<b>Baseline conditions</b>	<b>97, 98, 100, 101, 102, 132, 151</b>
<b>Economic decisions in Tier 2 review (alternatives analysis, social and economic justification)</b>	<b>73, 77-79, 81-83, 152</b>
<b>Relationship between impaired waters and antidegradation</b>	<b>6, 29, 42, 80, 88, 102, 103, 149</b>

## **Issue Paper 2. To which activities does non-deg apply?**

### Issue Paper 2. General comments/questions

Question 1. What are other states doing?

*Other states generally apply antidegradation to activities where there is Clean Water Act regulatory authority. Antidegradation is typically implemented through control documents such as NPDES permits and 401 certifications.*

Question 2. What about linear entities – such as MN/DOT and county road authorities? Should they have other options?

*Antidegradation applies to any activity that lowers water quality, but is only enforceable where there is regulatory authority. For example, any activities that require a NPDES permit are subject to antidegradation. How antidegradation requirements are implemented will vary according to the type of activity in question.*

Question 3. All new rules only apply to the same group-are we going to improve anything?

*Antidegradation is just one tool that can be used to protect our water resources. Although antidegradation is only enforceable where there is regulatory authority, there may be other mechanisms for applying antidegradation where there is no regulatory authority. Examples may include:*

- *building partnerships with local units of government to implement antidegradation through local authorities and local planning (without relinquishing the state's regulatory authority)*
- *incorporating antidegradation requirements where state funds are made available for projects that impact water resources*
- *point/nonpoint trading*

Question 4. There are significant differences between the policy issues for nondeg related to nonpoint sources (including all stormwater) and point sources. I believe it is appropriate to formally divide the discussion at multiple points in the stakeholder process and have a separate group to focus on issues specific to nonpoint sources. Among other things, we need to identify critical issues and arrive at some common terminology. I suggest a session at the next meeting to identify and list some the critical and special issues related to nondeg for nonpoint sources. If the MPCA does not think this division and separate discussion is appropriate, I request that this question be put to the entire stakeholder group for discussion and a determination.

*MPCA staff believe that the question was adequately addressed through the course of the stakeholder process. Critical and special issues related to NPDES-permitted stormwater activities were addressed in Issue Paper 8 “How should nondegradation be applied to NPDES-permitted stormwater activities”, at the corresponding stakeholder meetings in January, 2009, and at an additional stormwater-focused meeting held at the MPCA St.*

*Paul offices in March, 2009. The following materials may be found on the Nondegradation Rulemaking Web page (<http://www.pca.state.mn.us/water/nondegradation-rule.html>)*

- *Issue Paper 8*
- *PowerPoint presentation for the January meeting*
- *Comments received from the January meeting*
- *Presentation materials and PowerPoint presentation from the March meeting*
- *Discussion points and comments from the March meeting*

*The MPCA staff agree that the unique characteristics of NPDES-permitted stormwater activities require that the Agency develop antidegradation implementation procedures that differ from other NPDES-permitted activities.*

*Also see response to Question 22 which addresses nonpoint sources.*

Question 5. The distinction between Tier 1 and Tier 2 waters is confusing. It is difficult to see how almost all waters will be classified as Tier 2 waters. Please provide examples of waters that would be classified as Tier 1 and not Tier 2.

*A preferable way of defining antidegradation Tiers is not as waterbodies themselves, but as levels of protection. The Tier 1 level of protection, which ensures that existing uses are maintained and protected, applies to all waters whether they are impaired for certain parameters, are of high quality for certain parameters or even Outstanding Resource Value Waters (ORVWs). Existing uses are those that can be established by demonstrating that fishing, swimming, or other uses have actually occurred since November 28, 1975, or that the water quality is suitable to allow such activities to occur, whether or not they are included in the water quality standards.*

*Under a parameter-by-parameter approach to Tier 2 protection, a given waterbody may be impaired for one parameter (where the parameter is below or worse than the standard) and be of high quality for another parameter (where the parameter is better than the standard). Tier 2 protection is required for those parameters that are better than the standard.*

*An example of a waterbody that would receive only Tier 1 protection for a given parameter, is one where that parameter is at or below (worse than) the standard.*

Question 6. The classification of waters for nondeg should be formally linked to the assessment process for impaired waters. Why can't both determinations be made simultaneously and based on the same data?

*Information generated from monitoring efforts used for assessing waters for impairments may be used for making antidegradation decisions, assuming the data is of sufficient quality.*

Question 7. There are nondeg provisions related to thermal degradation under the CWA Section 316. What types of Minnesota waters are covered under these provisions? Please provide examples.

*Federal regulations at 40 CFR § 131.12 (a)(4) states:*

*“In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with section 316 of the Act.”*

*According to EPA guidance (Questions and Answers on Antidegradation, <http://www.epa.gov/waterscience/standards/library/antidegqa.pdf>) this portion of the antidegradation policy is intended to coordinate with policies established in the Clean Water Act (CWA) for setting thermal effluent limits. This guidance states that the “statutory scheme and legislative history indicate that limitations developed under Section 316 take precedence over other requirements of the Act.” Federal regulations implementing Section 316 are found at 40 CFR §124.16.*

*Section 316 allows for the revision of thermal effluent limits for point sources under certain conditions, but assures the “protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on the body of water into which the discharge is made”.*

*The types of receiving waters covered under these provisions are the same as those covered under the other provisions of the antidegradation policy –waters of the state. 40 CFR § 131.12 (a)(4) is directed toward the relationship between antidegradation policy and Section 316 of the CWA in setting thermal discharge limits.*

Question 8. How do we apply it to recreation, such as is done in the BWCA and DNR wake control?

*Antidegradation applies to recreation through the protection of existing uses, through the protection of designated uses, through protection of high quality waters by providing Tier 2 protection to parameters associated with recreation (e.g. bacteria as associated with swimming concerns), and through designation of outstanding resource waters where they have recreational characteristics that need to be maintained and protected.*

*For more detailed information on how antidegradation applies to recreational uses see EPA’s Water Quality Standards Handbook: Second Edition, 1994 (<http://www.epa.gov/waterscience/standards/handbook/>)*

Question 9. How about what activities does it not apply to?

*Antidegradation applies to any activity that lowers water quality. An exception to antidegradation review may be for those activities that are temporary in nature, see Issue Paper 10 (<http://www.pca.state.mn.us/publications/wq-rule3-29.pdf>) for criteria that may be used in defining temporary lowering of water quality.*

*Any applications for allowances of temporary degradation would need to be considered on a case-by-case basis, be protective of existing uses, limit water quality changes to the shortest possible time, consider non- and minimally-degrading alternatives, and require public participation. Examples of temporary activities may include construction, installation, maintenance, replacement and/or repair of roads, bridges, boat ramps or docks, sea walls, and outfall or intake structures. Temporary degradation may also be allowed for activities that protect the public interest, such as emergency response activities and remediation activities used to improve water quality.*

*Also see response to Question 2 regarding enforcement of antidegradation where regulatory authority exists.*

Question 10. How does the definition for existing uses (actually attained) work for MN waters that were mostly arbitrarily designed as fishable, swimmable?

*Existing uses are those that can be established by demonstrating that fishing, swimming, or other uses have actually occurred since November 28, 1975, or that the water quality is suitable to allow such activities to occur, whether or not they are included in the water quality standards. The shorthand expression “fishable/swimmable” is often used to describe the actual objective of the Clean Water Act Section 101 (a) to “restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”*

*The demonstration of an existing use is typically addressed when a proposed project has the potential to lower water quality. By default all waters in the state are classified 2B (fishable/swimmable). Downgrading a water classification to less than 2B (i.e. Class 7) requires a Use Attainability Analysis (UAA). A designated use may be removed (through the UAA process) if that use is not an existing use.*

Issue Paper 2, Discussion Point 1. Are there other regulated activities, other than through permits and water quality certifications, where the state may implement nondegradation requirements?

Question 11. Trading? Can a credit trading system be developed within regulations?

*Yes, trading is an option under consideration.*

Question 12. PCA control documents only or do other agency documents, DNR, BWSR, etc permits apply?

*The MPCA is the state agency delegated to implement the requirements of the Clean Water Act (CWA). The CWA requires states and authorized tribes to adopt water quality standards including antidegradation provisions. These provisions are typically implemented and enforced through the NPDES permits and other control documents which the CWA-delegated state agency issues. MPCA only has regulatory authority over the activities it regulates through its issued control documents.*

*Other agencies have their own mandates and means of implementing and enforcing those mandates.*

Question 13. Are there other federal agencies who already have this authority? Law is vague –nuisance law covers all of this.

*See response to Question 12.*

Question 14. BWSR – wetland issues. Is this an MPCA rule? Does this regulatory authority stop at MPCA or does it go to other LGU's?

*See answer to Question 12. MPCA can not delegate its CWA authority.*

Question 15. Solid waste permits? Landfill runoff (not leachable)?

*This question relates to “cross media” degradation of water quality where pollution occurring in one media, such as land or air, results in the lowering of water quality. Applying antidegradation requirements to permits issued by the Agency for activities not directly affecting water quality may be beyond the scope of this rulemaking, but should warrant further consideration.*

*Landfill runoff falls under NPDES stormwater permitting authority and is therefore subject to antidegradation requirements.*

Issue Paper 2, Discussion Point 2. Where regulatory mechanisms are currently not in place, what options are available for implementing nondegradation?

Question 16. Public drainages not MS4, agriculture, new permits? Nonpoint source permits? Agriculture permits aimed to protect water quality. Drainage work team.

*These appear to be suggested considerations to the discussion point.*

Question 17. Can you add nondegrad. to these other regulated activities?

*Those activities that have the potential to lower water quality and fall under MPCA regulatory authority may be subject to antidegradation provisions.*

Question 18. Lake associations using rules as guidance?

*Antidegradation may be applied as a means of protecting water resources through local units of governments and other entities. Mechanisms for doing so include the use of rules and guidance to develop local ordinances. MPCA may not relinquish its CWA regulatory authority to other entities but other entities may use their own enforcement authorities for water quality protection.*

Issue Paper 2, Discussion Point 3. Could or should units of government, in addition to the state, use their regulatory authority to implement nondegradation?

Question 19. How would we know what is causing the degradation?

*The cause of degradation may be determined in a number of ways including water quality monitoring, modeling, and observing historical records such as sediment core analysis. Surrogate measures, such as land use and land management, may also be useful in establishing benchmarks, and observing and predicting trends.*

Question 20. What incentive is there for this to occur?

*Without incentives implementation of antidegradation through other units of government is difficult. One incentive for any protection effort is improved quality of life through maintenance of our water resources. Credit or trading systems could also be used as incentives. Financial resources provided by the state to other units of government for activities that impact water quality may have provisions where antidegradation requirements must be met in order to qualify for those resources.*

Issue Paper 2, Discussion Point 4. What procedures can be used in the implementation of otherwise non-enforceable BMPs before allowing point source degradation of high quality waters?

Question 21. Nondeg needs to address Ag., otherwise, we will never maintain water quality. What about a buffer strip for Ag. land of 200'? This would be required around the perimeter of the Ag. land.

*As stated in response to questions raised in the Issue Paper 2 discussion points, antidegradation applies to any activity, whether point source or nonpoint source, that lowers water quality. However, antidegradation provisions do not create regulatory control where it has not previously existed. Antidegradation requirements are only enforceable where there is existing regulatory authority.*

*Regulatory control and enforcement of antidegradation requirements occur primarily through NPDES permitting for point source discharges. Certain agricultural discharges are exempt from the need for NPDES permits (40 CFR §122.3). These exempt discharges include:*

*(e) Any introduction of pollutants from non point-source agriculture and silvicultural activities, including stormwater runoff from orchards, cultivated crops, pastures, ranges lands, and forest lands, but not discharges from concentrated animal feeding operations as defined in §122.23, discharges from concentrated aquatic animal production facilities as defined in §122.24, discharges to aquaculture projects as defined in §122.25, and discharges from silvicultural point sources as defined in §122.27.*



*(f) Return flow from irrigated agriculture.*

*Return flow from irrigated agriculture and agricultural stormwater runoff are not considered point sources (40 CFR §122.2).*

*The use of buffer strips to protect water quality, strictly as part of an antidegradation regulatory requirement, is not possible without creating new regulatory authority. There may be other mechanisms, aside from antidegradation, which would call for such pollution prevention measures.*

*Antidegradation provisions may be developed to provide opportunities that could lead to the reduction of nonpoint source pollution. For examples "effluent trading" agreements whereby conservation best management practices on high risk nonpoint source pollution agricultural lands are financed by point source dischargers so that the net pollution load from the watershed is reduced. If implemented correctly, this could be a win-win solution that reduces pollution without requiring expensive "brick and mortar" upgrades to wastewater facilities.*

*Also see response to Question 128 which addresses antidegradation and feedlots.*

**Question 22. What about NPS?**

*MPCA is authorized to control nonpoint sources pursuant to its statutory authority contained in Minnesota Statute § 115.03, Subdivision 1. Also, Minn. R. 7050.0210, subpart 13 requires that water quality standards be maintained regardless of whether the pollution source is point or nonpoint.*

*The Clean Water Act (CWA) requires states to develop and implement programs for the control of nonpoint sources of pollution (CWA 101 (a)(7)). Antidegradation regulation (40 CFR § 131.12 (a)(2)) states that "... the state shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control" (emphasis added). The Environmental Protection Agency (EPA) has interpreted 40 CFR § 131.12(a)(2) as not requiring a state to establish best management practice (BMP) requirements for nonpoint sources where such BMP requirements do not exist. As EPA clarified in a February 22, 1994 guidance memorandum (from Tudor T. Davis, Director EPA Office of Science and Technology to EPA Water Management Division Directors, Regions I-X, Subject: Interpretation of Federal Antidegradation Regulatory Requirement), state antidegradation rules need only include provisions to assure achievement of BMPs that are required under state nonpoint source control laws or regulations. EPA's 1994 Water Quality Handbook recommends that states explain in their antidegradation policies or procedures how, and to what extent, the state will require implementation of otherwise non-enforceable (voluntary) BMPs before allowing point source degradation of high quality waters.*

*This rulemaking provides an opportunity to review the states regulatory authority over nonpoint sources of pollution. One option for situations where there is no regulatory authority over nonpoint sources is to develop procedures, as part of the formal antidegradation review process, to assess voluntary BMPs before allowing degradation of high quality waters caused by regulated sources. It is also possible that the process of identifying the lack of antidegradation authority over nonpoint sources could prompt legislative action to clarify or create authority, or to prompt other regulated entities to assess their protection efforts.*

Issue Paper 2, Discussion Point 5. Additional questions that should be asked regarding the applicability of nondegradation or thoughts that were not addressed above.

Question 23. The Clean Water Council is discussing the issue of non-point source impact relative to TMDL's-similar issues and ideas are being expressed, should they be in the loop?

*The Clean Water Council has been invited to participate in the stakeholder process for this rulemaking and MPCA staff intend to keep them and other stakeholders informed as they continue the process of developing the rules.*

Question 24. Will it be a one size fits all or will it be flexible enough to allow for enforcement and fit the individual nature of surrounding areas of waters?

*Implementation of antidegradation will differ according to type of activity. The level of protection afforded individual waters may also differ. For example, the water quality of ORVW Prohibited waters must be maintained and protected – which is interpreted as “no new or expanded discharge”. Those waters that are of high quality for a given parameter must receive Tier 2 protection (see Issue Paper 3 “What is tier 2 protection of high quality waters?”, <http://www.pca.state.mn.us/publications/wq-rule3-05.pdf>).*

*The Tier 1 level of protection, which ensures that existing uses are protected, applies to all waters whether they are impaired for certain parameters, are of high quality for certain parameters, or even waters designated as ORVWs. Existing uses are those that can be established by demonstrating that fishing, swimming, or other uses have actually occurred since November 28, 1975, or that the water quality is suitable to allow such activities to occur, whether or not they are included in the water quality standards.*

*The MPCA staff recognize that the high degree of variability in the types of activities that lower quality and also in the variability in the receiving waters. The challenge of rulemaking is to develop standards of statewide applicability which are flexible enough to be address extremely variable situations.*

Question 25. Is there a process to review nondegradation associated with general statewide activities that are new and growing, such as the biofuels industry, and may have widespread effects on all three tiers of water? The generic EIS provides an avenue but it appears rare and difficult and does not specifically address nondegradation.

*As currently implemented antidegradation is applied permit-by-permit through the NPDES permit program. There is currently not a process to review general activities outside of the permitting structure. There are some similarities between environmental review and antidegradation (e.g., significance thresholds and economic considerations). The similarities between these two program areas will be considered to see if there is any opportunity for cooperation and integration at some level.*

Question 26. What is expected out of the new reg. -still unclear and outcome does not look like it will change.

*The MPCA expects that the revised rule will provide better protection of the state's water resources. Minnesota's antidegradation provisions will more closely mirror federal requirements as outlined in §40 CFR 131.12. Implementation procedures will be revised with changes to how antidegradation will be applied to wastewater treatment and new implementation procedures will be developed for NPDES-permitted stormwater activities. The revised rule will likely place greater emphasis on alternatives analysis. This will include the extent of alternatives for consideration and the timing in the review process (earlier in the process). One of the goals of the rule revision is to have a better understanding of existing water quality of receiving waters before decisions are made to lower water quality. Where this is not possible, we need to develop and require pollution control measures that will protect receiving waters.*

Question 27. How do we address ag. drainage that causes impacts to stream and river channels and banks off the farmer's property? Do we establish a volume and discharge limit for each farm/drainage area?

*While scientific methods could be used (e.g., monitoring, computer simulation models, statistical analysis) to establish limitations on agricultural drainage, it does not appear that any mandatory best management practices or other regulations contained in Minnesota Drainage Law (Minn. Stat. Ch. 103E) are directed to agricultural runoff. The Federal and State agricultural land exemptions contained in 40 CFR §122.3 and Minn. Stat. § 116.07 apply to this question as well. In most cases, voluntary changes in agricultural land drainage practices in concert with financial incentives would be the most likely methods to implement the drainage limits determined by an antidegradation analysis.*

*Also, see response to Question 21.*

Question 28. Created Stormwater Ponds? Stormwater ponds that were historically wetlands? Ditches? Storm pipes? Swales? Box culverts? Should stormwater treatment systems be exempt from antidegradation review?

*This is part of a larger question which deals with the applicability of water quality standards to stormwater treatment systems. The question of such systems being exempt from antidegradation review may be beyond the scope of the rulemaking. The MPCA*

*may, however, consider how antidegradation provisions relate to various stormwater treatment structures. Some of the challenges that would need to be addressed include:*

- *Definition of stormwater treatment systems. There is a wide range of ponds, drainage ditches, wetland types, etc. In what ways are they different from waters of the state?*
- *The potential need for a certification process for identified stormwater treatment systems. This would be important for those treatment systems that are not otherwise covered under a permit.*
- *The associated administrative cost of certification and verification of stormwater treatment works.*
- *Accountability for proper operation and maintenance would need to be established.*
- *Enforcement accountability would also need to be established.*
- *Language would need to be developed stating that these treatment systems would be permitted for treating stormwater runoff and not for treating pollution from other sources.*

*Some background information that is pertinent to these considerations follows:*

*Water quality standards, including antidegradation provisions, apply to waters of the state which is defined in Minn. Statute 115.01, subd. 22 as:*

*(A)ll streams, lakes, ponds, marshes, watercourses, waterways, wells, springs, reservoirs, aquifers, irrigation systems, drainage systems and all other bodies or accumulations of water, surface or underground, natural or artificial, public or private, which are contained within, flow through, or border upon the state or any portion thereof."*

*(<https://www.revisor.leg.state.mn.us/statutes/?id=115.01>)*

*As defined above, waters of the state is very broad and encompassing in its definition and coverage. However, state rules (Minn. R. 7050.0130, subp. 2) provide exemptions for disposal systems or treatment works operated under permit or certificate of compliance of the agency.*

***Terms defined in statute.*** *The terms "waters of the state," "groundwater," "water pollution," and "toxic pollutants," as well as any other terms for which definitions are given in the pollution control statutes, as used herein have the meanings given to them in Minnesota Statutes, sections 115.01 and 115.41, with the exception that disposal systems or treatment works operated under permit or certificate of compliance of the agency are not "waters of the state."*

*<https://www.revisor.leg.state.mn.us/rules/?id=7050.0130>*

*Treatment works are defined in Minn. Statute 115.01, subd. 21 as:*

*(A)ny plant, disposal field, lagoon, dam, pumping station, constructed drainage ditch or surface water intercepting ditch, incinerator, area devoted to sanitary land fills, or other works not specifically mentioned herein, installed for the purpose of treating, stabilizing or disposing of sewage, industrial waste, or other wastes.”*

*Components found within stormwater discharges are considered other wastes as defined in Minn. Statute 115.01, subp. 9 as:*

*"Other wastes" mean garbage, municipal refuse, decayed wood, sawdust, shavings, bark, lime, sand, ashes, offal, oil, tar, chemicals, dredged spoil, solid waste, incinerator residue, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, cellar dirt or municipal or agricultural waste, and all other substances not included within the definitions of sewage and industrial waste set forth in this chapter which may pollute or tend to pollute the waters of the state.*

*“Water pollution” or “pollute the water” as defined in Minn. Statute 115.01, subp. 13 means:*

*(a) the discharge of any pollutant into any waters of the state or the contamination of any waters of the state so as to create a nuisance or render such waters unclean, or noxious, or impure so as to be actually or potentially harmful or detrimental or injurious to public health, safety or welfare, to domestic, agricultural, commercial, industrial, recreational or other legitimate uses, or to livestock, animals, birds, fish or other aquatic life; or (b) the alteration made or induced by human activity of the chemical, physical, biological, or radiological integrity of waters of the state.*

*Although stormwater itself may not be considered a pollutant, where stormwater is a result of human activity and where it diminishes the chemical, physical, biological, or radiological integrity of waters of the state the results of stormwater activities may be considered a form of water pollution.*

*The above definitions found in Minn. Statute 115.01 may be found at:*  
<https://www.revisor.leg.state.mn.us/statutes/?id=115.01>

*In addition to Minnesota statutes and rules, federal regulations at 40 CFR 122.2 state that:*

*Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11 (m) which also meet the criteria of the definition) are not waters of the United States. This exclusion applies only to manmade*

*bodies of water which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States.*

Question 29. How does it apply to impaired waters, TMDL's?

*Antidegradation applies to impaired waters in that existing uses must be protected and any activity must not cause or contribute to the impairment.*

Question 30. How can the BWSR rulemaking for Metro Water Planning be used to enhance water quality outcomes?

*How the Board of Water and Soil Resources (BWSR) rulemaking for Metro Water Planning (Metropolitan Area Watershed Management Rule) may be used to enhance water quality outcomes is beyond the scope of this rulemaking. There is, however, an antidegradation requirement to incorporate intergovernmental cooperation in decisions protecting high quality waters. This would include consulting with other state agencies, such as BWSR, in decisions to lower the water quality of high quality waters.*

Question 31. How will this be incorporated into the new stormwater rules and regulations?

*Antidegradation requirements will be identified in NPDES permits for stormwater activities. The specifics of those requirements are a significant subject of this stakeholder process. Also see the response to Question 4.*

Question 32. What happens "New Pollutants" causing impairments are discovered?

*Antidegradation applies to all potential sources of pollution, even emerging contaminants. Toxicity information and baseline conditions would need to be established when adequate information becomes available.*

### **Issue Paper 3. What is tier 2 protection of high quality waters?**

#### Issue Paper 3. General comments/questions

#### Issue Paper 3, Discussion Point 1. Questions or comments about the discussion presented in Issue Paper #3 of "What are high quality waters"

Question 33. Do local governments and watersheds get to have input into classification?

*Other entities will have the opportunity, through the intergovernmental cooperation and public participation process (as required in 40 CFR 131.12), to comment on the necessity to lower water quality. Under a parameter by parameter approach to identifying high water quality, other entities would also have the opportunity to comment on the determination of high water quality.*

Question 34. List??

*All Minnesota waters are considered high quality and require Tier 2 protection unless they are designated as impaired. Considering the vast amount of water resources in Minnesota, it is not practical to specifically list all waters (with associated parameters) that would qualify for Tier 2 protection.*

Question 35. What are the watershed expectations that are reasonable?

*See responses to Questions 26 and 33.*

Issue Paper 3, Discussion Point 2. Which approach to high quality water protection is more desirable (parameter by parameter vs. waterbody by waterbody)?

Question 36. P by P is more quantitative and straight forward but, what about cross dependencies where high levels in one area can make biology more susceptible to other pollutants than reflected in WQ stds?

*Agree with the commenter that cross dependencies (interactions of pollutants or other stressors?) causing synergistic or additive effects is a challenge to addressing antidegradation on a strictly pollutant-specific basis. It would seem reasonable that the revised rule incorporate some flexibility and allow for professional judgment in decisions regarding the determination of high quality. Professional judgment would include the status of aquatic communities. Tiered Aquatic Life Use (TALU) standards that are currently being developed will be a useful tool in the determination of high quality as it relates to the biological integrity of the waterbody.*

Question 37. Facility trips “non-deg review?”

*Yes, the actions of the facility will determine whether an antidegradation review is required. Antidegradation is applied through the permitting process. Reviews are required when an applicant proposes an action that will lower water quality.*

Question 38. The problem I see w/parameter by parameter is that wouldn't virtually every waterbody be considered high quality for some parameter?

*Yes. See response to Question 34.*

Question 39. Drinking water w/o treatment? Or fishable/swimmable.

*The stakeholder's question does not pertain to the discussion point. See Question 52 for a response to how antidegradation applies to drinking water use.*

Issue Paper 3, Discussion Point 3. When making a determination of high water quality, what are the advantages and disadvantages to making that determination:  
a) prior to nondeg review



Question 40. Who is going to do and fund all of these reviews?

*The MPCA is responsible for conducting antidegradation reviews. Some of the information needed to conduct the reviews will be provided by the applicant.*

b) at the time of nondeg review

Question 41. Who is going to do and fund all of these reviews?

*See response to the above question.*

c) Which of the above approaches is most desirable? Are there other approaches that should be considered?

Question 42. According to the One Water approach of rotating 8-digit HUC assessments, designate water bodies within the HUC as impaired or unimpaired, and if unimpaired, which is considered high quality?

*In terms of antidegradation, high quality waters are defined as those where the water quality is better than the applicable standard. Under a parameter-by-parameter approach, Tier 2 protection is afforded to those waters for specific parameters that are better than the standard.*

Issue Paper 3, Discussion Point 4. How can narrative standards be used in nondeg review?

Question 43. w/endangered can they be translated to numeric?

*Narrative standards often have numeric translators. How endangered (species? protection?) may be translated to numeric standards is beyond the scope of this rule revision.*

Question 44. Dates are confusing – one says 1988 for nondeg in MS4 NPDES permit and today we heard November 28, 1975. Which is correct?

*Section 131.12 (a)(1) of the federal antidegradation policy requires that existing uses and the water quality necessary to protect them be maintained and protected. An existing use as defined in 40 CFR 131.3 can be established by demonstrating that a use has actually occurred since November 28, 1975, or that the water quality was suitable to allow such uses to occur, whether or not such uses are designated uses for the waterbody in question. All waters are subject to Tier 1 protection. Generally waters that are subject to only Tier 1 protection are those that do not exceed the CWA Section 101(a)(2) goals, or do not have assimilative capacity.*



*The initial federal antidegradation policy issued by the Department of the Interior on February 8, 1968, provided for the protection of high quality waters by stating that, “(w)aters whose existing quality is better than the established standards as of the date on which such standards become effective will be maintained at their existing high quality.” Minnesota adopted Minn. R. 7050.0185 (Nondegradation for All Waters) on January 1, 1988 and consequently uses this date to determine baseline quality and to define new or expanded discharges.*

Issue Paper 3, Discussion Point 5. Do you believe that impaired waters are subject to nondegradation requirements? Under what circumstances? (Note: Impaired waters are subject to antidegradation requirements in that existing uses for any and every water need to be maintained and protected. In addition, proposed activities may not cause or contribute to an impairment.)

Question 45. Fecal coliform impairments – natural? Wild life? If not manmade, no-should not be listed.

*Antidegradation requirements, as stated above, would apply to waters impaired for bacteria (E. coli). Natural, background conditions will need to be taken into consideration in the determination of whether Tier 2 protection is required and in establishing baselines.*

Question 46. Waterbody by waterbody approach?

*Whether high quality designation is done through a waterbody-by-waterbody approach or through a parameter-by-parameter approach, impaired waters are subject to antidegradation requirements for the protection of existing uses.*

Issue Paper 3, Discussion Point 6. Additional questions that should be asked regarding the protection of high quality waters or thoughts that were not addressed above.

Question 47. How can we integrate all agencies?

*This question is beyond the scope of this rulemaking.*

Question 48. What limited parameters can be used as nondeg incentives (instead of all toxic pollutants)?

*Theoretically antidegradation provisions apply to any parameter that causes the lowering of water quality. However, it is not reasonable to expect that all parameters will be evaluated for the purposes of antidegradation. Practical application of antidegradation requires that certain parameters (Parameters of Concern, POCs) be identified with which antidegradation decisions are made.*

*Parameters of Concern may be identified for specific types of activities and the level of risk associated with specific parameters. It may be worthwhile to group pollutants based*

*on pollutant fate characteristics and use a representative pollutant as the surrogate parameter to evaluate for the larger group. For example, volatile pollutants could be represented by one whose rate of volatilization is a defined duration before a small percent is left in solution (say, 1% left in 4 hours) - or pollutants that are largely hydrophobic and associate with solids may be represented by TSS – or the rate of biodegradation is greater than 80% in 24 hours.*

*Flexibility needs to be incorporated into the selection of POCs to account for unforeseen or unique, site-specific circumstances. The identification of POCs will likely occur in guidance.*

Question 49. Is volume really something that needs to be assessed as part of nondeg?

*Yes, impacts from volume to receiving waters will be considered in this rule making. Volume by definition is not a pollutant, but it can be considered a form of water pollution where it impacts the chemical, physical or biological integrity of a waterbody (Minn. Statute 115.01, subp. 13). The 2003 Court of Appeals' decision required that changes in volume be considered in the determination of whether any of the 30 selected MS4s are expanded discharges. It should be noted that water appropriations falls under Minnesota DNR regulatory authority.*

*Decisions regarding changes in volume, like other Parameters of Concern, would need to consider the characteristics of the receiving water. For example, a discharge to a large lake would be considered differently than a discharge of similar volume to a low order stream.*

Question 50. How is Lake Superior classified?

*Lake Superior is classified as an Outstanding Resource Value Water (ORVW) under Minn. R. 7050.0180 (Nondegradation for Outstanding Resource Value Waters). Portions of Lake Superior north of latitude 47 degrees, 57 minutes, 13 seconds, east of Hat Point, south of the Minnesota-Ontario boundary, and west of the Minnesota-Michigan boundary is in the "Prohibited" category. New or expanded discharges are not allowed in this portion. Other portions are in the "Restricted" category of ORVWs where new or expanded discharges are allowed when there is not a prudent and feasible alternative to the discharge.*

Question 51. How are local (county zoning and planning) authorities going to be educated and enforce/apply these rules?

*Although the MPCA cannot delegate its authority for implementing and enforcing antidegradation requirements, there may be many opportunities for the MPCA to work in partnership with other entities in achieving antidegradation goals. The MPCA staff will consider these opportunities as they develop the guidance for how the revised antidegradation rules will be implemented."*

Question 52. What about drinking water use? I think the existing use of surface waters needs to be evaluated...on the books certain surface waters 2Bd and 2A have the use class Class 1B of Domestic Consumption and the Safe Drinking Water Act MCLs apply. There is never an assessment of these waters for this use and because it is an important use, this should be done for nondegradation review or in the regular assessment process.....(emphasis was added).

*Currently our regular assessment process only assess waters for meeting Class 2 standards with the exception of the 2010 impaired waters assessment cycle where we are assessing Class 1 waters for meeting the nitrate standard.*

*In regards to antidegradation, there are two components to this question; 1) the protection of existing uses (Tier 1) where that use is for drinking water, and 2) the protection of high water quality (Tier 2) where the existing water quality is better than the drinking water standards. Federal antidegradation policy (40 CFR 131.12) and US EPA guidance including the Water Quality Standards Handbook (1994) do not explicitly mention drinking water as an existing use, nor is it excluded. It would be reasonable to include drinking water as an existing use – a use that would be protected through antidegradation Tier 1 protection provisions.*

*Federal regulations (40 CFR 131.12(a)(2) requires Tier 2 protection (Tier 2 review) “(w)here the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water...”. This requirement is for the protection of aquatic life and recreation to which Class 2 standards apply. We currently do not include Class 1 standards in nondegradation reviews. However, nothing in federal antidegradation requirements requires or prohibits conducting Tier 2 review using drinking water standards for Class 1 waters.*

#### **Issue Paper 4. What triggers a nondegradation review of potential impacts to high-quality waters?**

##### Issue Paper 4. General comments/questions

Question 53. How will high quality waters be defined?

*For the purposes of antidegradation, high water quality is defined as the quality of those waters that are better than the applicable standard. Under a parameter-by-parameter approach a given waterbody may be impaired for one parameter (where the parameter is below or worse than the standard) and be of high quality for another parameter (where the parameter is better than the standard). Tier 2 protection is required for those parameters that are better than the standard.*

Question 54. How will you know if an activity will lower water quality?

*Projected impacts to receiving waters will be determined by the MPCA using, in part, information supplied by the applicant. This information may come from modeling or assessment of impacts to receiving waters from similar activities.*

Question 55. Should more resources be diverted toward creating standards for chemicals currently without standards?

*This question is beyond the scope of this rulemaking. The MPCA is continually evaluating pollutants for which there is no standard and developing standards for pollutants where a sound scientific basis exists.*

Question 56. When you review the results of nondeg reviews completed in the past, what does that tell you about the effectiveness of nondegradation as a tool to protect water quality?

*Looking at nondegradation reviews (Tier 2 reviews) themselves are only one means of evaluating nondegradation as a tool to protect water quality. Reviews are required when there is a proposed lowering of water quality. In order to conduct the review the agency needs information on the quality of the receiving water(s), the impact of the discharge to the receiving water(s), alternatives to the proposed discharge and information pertinent to important social or economic development related to the proposed activity. Much of this information is supplied by the applicant. The financial considerations, as well as the time required in the process of gathering and reviewing this information, may be substantial. In order to avoid going through the review process, some applicants of “expanding” discharges choose to “freeze” their pollutant loadings at the previously permitted loads. Applicants for new discharges are required to undergo review where water quality is lowered.*

*The Tier 2 level of protection is not a “no growth” policy. Rather it is a process that the state uses to determine if the lowering of water quality is necessary for important social and economic development in the area where the waters are located. This process allows the applicant to present information regarding the necessity of lowering water quality and what alternatives to the discharge were considered. The process also allows for intergovernmental cooperation and public participation. Antidegradation provisions are successful when all the elements of the review process are functioning as they should.*

Question 57. If there is no readily available ambient water quality data, how do we know it is a high quality water?

*Receiving waters are considered high quality until there is information to demonstrate otherwise.*

Question 58. Can volunteer monitors be used to collect data to determine quality?

*Yes, volunteer monitoring may be used as long as the data generated is of sufficient quality.*

Question 59. Can LID practices be used to get an exemption from non-deg review? If you choose to not use LID (from a menu list), then go through more rigorous non-deg review.

*For stormwater activities this is an option worth consideration. If it can be demonstrated that specific pollution control measures (perhaps including LID –Low Impact Development) will prevent degradation of water quality then additional review would not be required. For example, a review may not be required where LID is employed to maintain stormwater discharges (pollutant loading and flow) at some baseline condition. One challenge is demonstrating the effectiveness of the control measures and how much confidence there is that demonstration. Another challenge is being able to articulate or quantify the level of control measure needed to allow for the exemption of review.*

*Ideally there would also be some means to verify that the control measures are working during the permit cycle as they were proposed. Through an adaptive management process modifications to those control measures could occur during and between permit cycles.*

#### Review Triggers

Issue Paper 4, Discussion Point 1. In the absence of adequate, readily-available ambient water quality data, and the inability to calculate assimilative capacity, should antidegradation review of high quality waters be triggered by specific activities (inferring that those activities will lower water quality)?

Question 60. What are high quality waters?

*High quality waters are those where the quality is better than the applicable water quality standard .*

Question 61. Need template for analysis – 30 MS4 nondeg plan all did different models and different assumption. Are they all appropriate?

*During the development of the loading assessments MPCA staff met with representatives from all of the 30 Selected MS4s to discuss their modeling approaches and in a general way preapproved the modeling approaches. Pre-approval was based on the premise that simple modeling approaches addressed the specific requirements outlined in the Part X of the MS4 Permit. Some MS4s chose to use more complex models for various reasons. So yes, MPCA feels that the loading assessments and models used were appropriate to address the specific task outlined in the MS4 Permit. In no way does MPCA imply that the modeling approaches used were valid for tasks outside this specific use.*

Issue Paper 4, Discussion Point 2. If so, in addition to those listed on page 2, what specific activities should trigger a nondegradation review?

*From page 2, Issue Paper 4:*

*“Some **specific examples** of activities that **would trigger** review may include:*

- New NPDES individual permits*
- Modified or reissued individual NPDES permits with an expanded discharge beyond that presently allowed in an existing permit*

- *General NPDES permit at time of issuance*
- *§ 401 Water Quality Certifications*
- *§ 404 permits (dredge and fill permits)”*

Issue Paper 4, Discussion Point 3. Should any of the specific activities listed on page 2 not be included as those that would trigger nondegradation review?

*From page 2, Issue Paper 4:*

*“Some **specific examples** of activities that **would not trigger** review may include:*

- *Ground water clean-up actions*
- *Projects designed to improve the quality of surface waters*
- *Reissued individual NPDES permits with no change in discharge*
- *Modified individual NPDES permits with permitted discharges at or below that presently allowed in an existing permit*
- *Projects that do not otherwise lower the quality of a receiving water”*

Question 62. Make an exception for approved LID programs? Make a LID certification?

*See response to Question 59.*

Question 63. Assumed impact to WQ needs some sort of documentation i.e., model, empirical evidence. An expanded discharge at some level may not require a review. Also some increase in flow and decrease in either load or concentration maybe of benefit to receiving water. What about seasonal implications that may not impact or may help flow conditions?

*Seasonal impacts will need to be considered in antidegradation decisions, including triggers for review.*

#### Review Exemptions

Issue Paper 4, Discussion Point 5. If so, in addition to those listed on page 2, what specific activities should be exempt from nondegradation review?

Question 64. Permits are issued to protect public waters. If our permits are well written and implement and enforced do we need additional non-degradation review? Effluent limits drive treatment permits.

*The MPCA agrees that permits are issued to protect waters of the state. A well written, implemented and enforced permit should contain antidegradation provisions that ensure water quality is not lowered; or where allowed through the Tier 2 review process, that it is not lowered beyond what is determined to be necessary for important social or economic development.*

*Effluent limits are generally based on protecting the water quality standards, not necessarily protecting existing water quality. The goal of Tier 2 antidegradation protection is to protect existing high water quality.*

Question 65. Need to discuss applicability to stormwater, what is design storm? Pollutants of concern?

*Antidegradation is applicable to any activity that lowers water quality, including stormwater activities. Criteria used in antidegradation decision making processes, such as appropriate design storm and Parameters of Concern, are still being developed.*

*Critical and special issues related to NPDES-permitted stormwater activities were addressed in Issue Paper 8 “How should nondegradation be applied to NPDES-permitted stormwater activities”, at the corresponding stakeholder meetings in January, 2009, and at an additional stormwater-focused meeting held at the MPCA St. Paul offices in March, 2009. The following materials may be found on the Nondegradation Rulemaking Web page (<http://www.pca.state.mn.us/water/nondegradation-rule.html>)*

- *Issue Paper 8*
- *PowerPoint presentation for the January meeting*
- *Comments received from the January meeting*
- *Presentation materials and PowerPoint presentation from the March meeting*
- *Discussion points and comments from the March meeting*

*The unique characteristics of NPDES-permitted stormwater activities necessitates that the MPCA develop antidegradation implementation procedures that differ from other NPDES-permitted activities.*

Issue Paper 4, Discussion Point 6. Should any of the specific activities listed on page 2 not be included as those that should be exempt from nondegradation review?

#### Minimum Thresholds

Issue Paper 4, Discussion Point 8. If so, should it be based on assimilative capacity, on the type of activity or other criteria?

Question 66. Who will determine AC, at what cost? Where do the funds come from? AC probably not known on most lakes now. Watershed approach makes sense but still things to be worked out before this can be used.

*In order to determine assimilative capacity the quality of the receiving water(s) needs to be understood. Information used to assess the quality of the receiving water(s) may come from a number of sources, including previous and or ongoing monitoring data, reference waterbodies, modeling, and surrogate measures where there is adequate correlation between the surrogate and water quality. Where adequate information is lacking the*



*applicant may be responsible for its provision. The MPCA will ultimately be responsible for the determination of assimilative capacity.*

Question 67. What about non regulated activities?

*See responses to Questions 1, 2 and 3.*

#### Scaled Approach

Issue Paper 4, Discussion Point 10. Should there be different levels (scaled approach) of nondegradation review? (For example: Different types/levels of activity, the amount of assimilative capacity used, other changes in water quality or probability of degradation)

Question 68. Who is going to determine and keep track of assimilative capacity? Who is going to make sure that waters are classified correctly (many waters were given the default 2B std., Who is going to update the classes/standards)?

*See response to Question 66 regarding who determines assimilative capacity. The MPCA would be responsible to track assimilative capacity. The MPCA is also responsible for correct classification and updating of designated uses.*

Question 69. Who is going to specify which waters are Tier 1 or Tier 2?

*The decision regarding which level of protection (Tier 1 or 2) a given waterbody will be afforded will be made by the MPCA after adequate information regarding the receiving water is obtained. All waters receive Tier 1 protection, which is the maintenance and protection of existing uses. High quality waters - waters where the quality is better than the applicable standard - receive Tier 2 protection. Also see responses to Question 5.*

Question 70. Does non-deg review only apply if you are dealing w/a Tier 2 water?

*Waters where the quality is better than the applicable standard, which are referred to as high quality waters, receive Tier 2 protection. Tier 2 protection is often referred to as requiring antidegradation review, which entails an alternatives analysis and a demonstration of necessity for important social or economic development. In this sense antidegradation review is conducted only on high quality waters. Antidegradation decisions do occur, outside of Tier 2 review, for other waterbodies which receive different levels of protection. For example activities are not allowed on any waterbody where existing uses would be removed (Tier 1 protection). New or expanded discharges that cause an increased loading of pollutants are not allowed in ORVW-Prohibited waters (Tier 3 protection).*

Question 71. Can we identify WQ impacts of each land use/risk of each land use?

*Impacts to water quality are associated with land use and changes in land use. The water quality of a given receiving water is to a large extent dependant on the land use activities occurring within the watershed.*



*Modeling may be used to estimate how changes in land use activities will affect changes in water quality. Thus, changes in land use as a surrogate measure may be a useful tool in simulating or predicting water quality trends and perhaps even creating baselines. As with any type of modeling, accuracy of predictions depends on the number of variables and assumptions used, and how closely the assumptions approximate reality.*

Question 72. Not sure. What has been suggested or tried elsewhere that would serve to protect water quality? This seems to be another way of asking “what should trigger review.” Once in review, what would *different levels of review* mean? Maybe for common activities (such as reviews of wastewater treatment plants) guidance containing a specific list of alternatives to consider, and social/economic factors to be provided could be developed (or revised to the extent such an approach is already in use).

*Considering the potentially large number of nondegradation reviews that may be required and limited resources to facilitate those reviews, having an approach with different levels of review may be considered. A scaled system could be developed that would correlate review requirements to the relative potential of an activity to lower water quality.*

*An example of a scaled review approach is one practiced in Maryland where alternatives analysis are required in all Tier 2 reviews, but a demonstration of the need to lower water quality based on social or economic development is only required when more than 25% of assimilative capacity will be cumulatively consumed.*

**Issue Paper 5. Nondegradation Review: alternatives analysis, economic and social justification, intergovernmental coordination and public participation.**

Issue Paper 5. General comments/questions

Question 73. Why doesn't the state do a cost-benefit analysis for each permit type to address the SEJ component, so all entities are treated equivalently and cumulative impact can be addressed.

- *First and simplest – Benefit-cost analysis does not address the assignment. Antidegradation reviews must determine whether a change in water quality is “necessary to accommodate important economic or social development.” A benefit-cost analysis will find out whether a given change will yield net positive changes in resource values. It will say nothing about impacts of the change on social or economic development.*
- *An aggregate analysis as suggested (“cost-benefit analysis for each permit type ...”) would yield no useful information for specific antidegradation reviews. Information from an aggregate analysis might even prove misleading because benefits and cost vary among cases. A finding that, say, NPDES permits generally yield benefit-cost ratios of 1.5 cannot tell us whether the same ratio holds for a specific case.*

- *State-sponsored benefit-cost analysis should not substitute for permittees' responsibilities. The burden of proof in an analysis of social and economic impact rests with the permittee. Shifting the burden of proof to the state would remove a valuable performance incentive.*
- *Benefit-cost findings based on aggregate estimates will not give equivalent treatment to all cases. Instead, important distinctions (e.g., high cost versus low cost) would be hidden. A more reasonable way to see that all cases are analyzed comparably would be to apply consistent standards to analytical methods.*
- *It is unclear how an aggregate benefit-cost analysis can address cumulative impacts. The requirement can surely be added to the assignment, but it is not generally part of a benefit-cost analysis, which usually focuses on marginal impacts. Instead, cumulative impacts are more likely to serve as input factors in an economic impact analysis.*
- *Benefit-cost analyses would be costly and time-consuming. A lot of resources would be spent to get answers that do not address the question to be answered.*

Question 74. Need consistent assumptions for models across the board. Develop a template for non-deg review, maybe similar to EAW format?

*Developing clear guidance or a template for how reviews are conducted is important for both consistency and transparency. Some of the procedures used in the EAW may be considered in developing review guidance.*

Issue Paper 5, Discussion Point 2. Should trading be considered as an alternative? Why or why not? If so, under what circumstances?

Question 75. Trading would be really difficult unless we have a comprehensive monitoring and auditing program and how would such a system be funded?

*Monitoring of trading activities would be the responsibility of the agency. Presumably the funding would come from state resources.*

Question 76. Yes, how else will you address Ag?

*Agree that trading is a way in which antidegradation may reduce agricultural sources. Also see response to Question 21.*

Issue Paper 5, Discussion Point 3. Regarding alternatives, how should "economically-reasonable" be defined?

Question 77. Life cycle cost analysis of alternatives? Capital and operations and maintenance over the life of the treatment BMPs.

*Life cycle cost analysis may be used as a test for the reasonableness of a given alternative. A group of analytical methods has been developed with the purpose of compiling comprehensive financial information for the comparison of alternatives. Some methods are limited to study of capital asset values. Others adopt a broader view and take environmental impacts into account. However, learning that the life cycle costs of one option exceed those of another option will say nothing about social and economic development.*

Question 78. This will be variable based upon area's values. What's more important, \$ or resources? Needs to be defined in order to prevent abuse.

*These comments and questions may be divided into three elements:*

a) *"This will be variable based upon area's values."*

*Every social and economic development analysis should use local data to the greatest reasonable extent. We have to recognize though that strict reliance on local data will probably prove rather costly. Permittees will have the main responsibility to compile data and information. The degree to which they rely on local data will depend on their evaluation of the cost and value of local data.*

b) *"What's more important, \$ or resources?"*

*Antidegradation reviews are intended to weigh the relative importance of resources. Dollars are just counters on the measuring stick.*

*Antidegradation reviews make clear the resource trade-offs required when water quality changes. A new industrial source (that increases pollutant discharges) will increase employment, income taxes, etc., but at the cost of some water quality loss. In the alternative, prohibiting the new industrial source will maintain water quality - but it will also forego the benefits of new jobs, etc.*

*Bear in mind that changes in water quality 1) cannot be large enough to exceed applicable standards 2) must not remove existing uses, and 3) can only be permitted if they are "necessary to accommodate important economic or social development."*

*Antidegradation reviews set up a trading zone. Within that zone, water quality and social and economic development can be traded on terms set by local conditions. Terms of trade will show the relative importance of different resources. A predetermined finding of which factor is more important would do away with the need for antidegradation reviews.*

c) *"Needs to be defined in order to prevent abuse."*

*Let's assume that the reference is to the relative importance of dollars or resources. Antidegradation reviews are designed to estimate the relative importance (or value) of resources – within the limits set by applicable water quality standards. Water quality must be maintained and protected for Tier 1 protection of existing uses and Tier 3 protection of Outstanding Resource Value Waters. In such cases, water quality is more important than social and economic development. In cases requiring Tier 2 protection of high quality waters, relative values depend on existing water quality and the capacities of current economic resources. Variance among high quality receiving waters makes it unreasonable to impose a single standard of value, as suggested in the comment above. The single standard would prove too high in some cases and too low in others. In the alternative, we hope to develop an antidegradation review system that is based on local data and makes clear the relative value of local resources.*

Question 79. Wyoming's looked good, you can pick anything apart. Why not start off that it is important?

*Wyoming's antidegradation rules give project proposers an initial benefit of the doubt: "If the applicant submits evidence that the activity is important development, it shall be presumed important unless information to the contrary is submitted in the public review process."<sup>1</sup>*

*Wyoming's antidegradation rules are under study because they may offer a cost-effective way to conduct antidegradation reviews. One significant change is suggested. Qualify "evidence" with the word "reasonable." Then, tie the meaning of "reasonable" to Minnesota's procedures for adopting rules. Minnesota permittees, interest groups and agencies are familiar through long practice with the "reasonableness" standard. If a permittee presents evidence that is not reasonable, the MPCA and/or environmental interest groups can challenge it on that basis. To complement the "reasonableness" standard, the MPCA also would strongly encourage permittees to consult with interested members of the public before beginning the process of antidegradation review.*

*The MPCA does not expect any near term increases in staff resources at the MPCA. Although administrative costs always matter in rule development, current state budget constraints raise the importance of administrative cost control. The procedures described above may minimize administrative cost for all parties.*

Question 80. Limits must apply equally to other programs. If a nondeg review has a limit, the same limit should apply to TMDL, etc. What if cumulative capacity decreases to a point where the water is impaired. Now other projects can't be built and who pays for the TMDL; the public?

*The purpose of antidegradation is to not allow the removal of existing uses, maintain water quality where that quality is better than the applicable standards (high quality water) unless it is necessary to do so for important social or economic development, and*

---

<sup>1</sup> "Implementation Policies for Antidegradation Mixing Zones Turbidity Use Attainability Analysis," Wyoming Surface Water Quality Standards, p. 11.

*to protect and maintain waters that are considered to be outstanding resources. The purpose of TMDLs is to bring the quality of impaired waters back up to applicable standards.*

*Theoretically high quality water may be lowered through Tier 2 review down to the standard. Once at the standard any further lowering of water quality is not permitted. The only way future new or expanded discharges would be allowed would be through a credit or trading scenario. The question of who pays for the TMDL once a waterbody is degraded is beyond the scope of this rule revision.*

Question 81. Calculate full environmental cost, more difficult than economic cost. Full cost accounting w/nonpoint source impacts. How we weigh economic benefit vs environment impacts?

*Actually, full environmental cost and economic cost are more or less the same. Both take into account the change in resource values caused by a change in water quality. The problem with the suggestion is that it does not address the issues required for antidegradation reviews. Those reviews are required to determine whether a change in water quality is “necessary to accommodate important economic or social development.” See the replies to questions 73 and 77 for more discussion.*

Question 82. Needs discussion. How do we measure environmental benefit?

*Environmental benefits are not measured. They are estimated through surveys or compilation of existing data that relate indirectly to environmental resource values. Benefit estimates take one of two general forms:*

*1. Natural resources as factors in economic activity.*

*Some analyses estimate the value of natural resources as commodities people use to make things. Minerals, timber and land in agricultural production are the kinds of natural resources taken into account when making such use-oriented valuations. Resources are considered as intermediate goods in production processes.*

*Another class of use-oriented analyses estimates the value that people derive from direct use of natural resources. This view considers natural resources as forms of consumer services. Their value derives from how much people are willing to spend to go fishing or swimming, or to own houses on lake shores.*

*Evaluation studies of this sort often have titles like, “The Economic Benefits of X,” in which X is a natural resource type such as a forest or mineral deposits. These analyses frequently make use of off-the-shelf models. Economic benefits are presented in terms of the dollar values of output or the number of jobs that are “dependent” on selected natural resource uses.*

2. *Natural resources as contributions to community welfare.*

*Another way to evaluate natural resources estimates the value people place on resource quality and/or access. These analyses often focus on human health effects. They estimate how much people are willing to pay for environmental improvements. In the alternative, benefit studies may estimate what people are willing to pay to avoid the risk of future harm that results from some form of environmental decline.*

*Studies in this class often have titles like, “The Environmental Benefits of Y,” in which Y represents either a program or plan to improve environmental conditions. (Benefit studies can also estimate the environmental costs of not adopting programs or plans.) These types of studies are not limited to consideration of human health effects. They may also take into account:*

- benefits that accrue to natural systems (wildlife, scenic vistas),*
- the value people place on an option to enjoy a natural setting under specified conditions,*
- the “bequest” value of undisturbed or improved natural settings, or*
- the value people experience from knowing that resources are improved or remain undisturbed.*

*As environmental benefit descriptions become more abstract, benefit estimates tend to become less reliable.*

Issue Paper 5, Discussion Point 5. What factors, other than those listed on page 2, should be considered in the economic or social justification?

*From page 2, Issue Paper 5:*

*Factors that may be considered in the decision of economic or social justification may include:*

- condition of the local economy;*
- changes in population;*
- changes in the number and types of jobs directly or indirectly resulting from the proposed activity;*
- changes in the community tax base;*
- changes in social conditions or services;*
- impacts to human health;*
- impact to the environment;*
- benefits associated with the maintenance of high water quality;*
- any relevant information provided through the intergovernmental cooperation and public participant requirement; and*
- any other relevant economic or social factors considered important by the Agency.*

Question 83. What about calculating entire cost (Oregon)? How about the cost of undoing that pollution in a TMDL setting? That might express realistic costs!

*Although full cost accounting is not appropriate for social and economic development evaluations, it can have a place in the evaluation of alternatives. Cost estimates in comparisons of alternatives generally do not go beyond the financial estimates of direct cost made by engineers and accountants. They sum up expenses incurred by a given activity. They do not include indirect costs incurred outside of the affected facility (e.g. water quality changes).*

*Fair comparison of alternatives requires that options be evaluated on more or less equal bases. This is where cost-effectiveness comes into play. Each alternative will have an environmental effect that can be estimated in terms of physical units (e.g., pounds of pollutant removed from a discharge stream). Estimated costs divided by estimated effects become the measure of cost-effectiveness. For example, an alternative that removes 100,000 pounds from a discharge stream at an annual cost of \$1 million has a cost-effectiveness estimate of \$10 per pound. It would be preferred to an alternative with a cost-effectiveness estimate of \$11 per pound.*

*Full cost estimates will be more costly and time-consuming than conventional cost estimates. And the extra cost may not be needed to take environmental impacts into account. The estimate of pollutants removed may serve as a reasonable proxy for environmental impacts. Removing more pollutants should be more beneficial, all other things being equal. Antidegradation reviewers should be aware that secondary impacts (e.g., waste disposal) may interfere with simple cost-effectiveness comparisons. If secondary impacts are significant, they should be added to the cost-effectiveness estimate.*

*Bear in mind also that scale effects matter in cost-effectiveness evaluations. An alternative that removes less pollutant than other methods should not have a basis equal to alternatives that remove more pollutants. Arithmetic weighting systems or multiple-alternative scenarios should be used to set comparisons on equivalent bases.*

Question 84. What does this have to do with stormwater?

*See responses to Questions 2 and 4.*

Issue Paper 5. Discussion Point 6. What agencies and agency programs (local, state and federal) should be included in the intergovernmental coordination requirement for nondegradation review?

Question 85. Who could you exclude? I don't think anyone.

*Agree, need to be as inclusive as possible. Any agency associated with water quality protection which may have an interest in a given proposed activity should be consulted.*



## **Issue Paper 6. What are the best ways to describe impacts on receiving waters?**

### Issue Paper 6. General comments/questions

Question 86. Is it achievable?

*The assumption is that the question refers to the achievability of describing impacts on receiving waters. In the broadest sense gaining an adequate understanding of all the impacts from every conceivable activity for every conceivable parameter that may impact a receiving water is impossible. If we can obtain enough pertinent information on impacts to receiving waters so that decisions may be made in how those waters are protected, then it is achievable. Also see responses to Question 48.*

Issue Paper 6, Discussion Point 1. Given the wide range of parameters to which antidegradation applies, is there a need to determine selected parameters to be addressed in antidegradation decisions? If no, go to Question 2. If yes:

a. How are these decisions made? In other words, is there a way of prioritizing or ranking types of parameters or specific parameters to be addressed in antidegradation review? Some considerations include the probability that the parameter will impact water quality, level of risk associated with the parameter, type of pollutant, prevention or treatment costs, etc.

Question 87. Intensive statewide monitoring, it is justified?

*This question is beyond the scope of this rulemaking. In regards to antidegradation decisions, information generated from statewide monitoring efforts will be very beneficial for determining assimilative capacity, tracking trends and accounting for cumulative impacts.*

Question 88. As it relates to storm water discharges, for consistency between MPCA programs, can the general parameters be selected to mirror those that are being analyzed under the TMDL program to determine impairment status?

*Yes, selection of Parameters of Concern for antidegradation decisions that are used in TMDL programs is reasonable. However there should be some flexibility to allow for selection criteria for Parameters of Concern other than those used in TMDL programs.*

c. Where should these parameters be identified? For examples include in rule, guidance, permit, etc.

Question 89. What about chlorides?

*Chlorides may be taken into consideration when determining Parameters of Concern.*

Question 90. Rules specify guidance to be included by reference in permits on a case by case basis?



*This approach would provide flexibility in how antidegradation is implemented. Being too specific in the rule makes it cumbersome, but enough specificity is needed to ensure desired outcomes.*

Issue Paper 6, Discussion Point 5. Should a waterbody receive tier 2 protection for a given parameter where there is no standard for that parameter? Why or why not?

Question 91. Should site specific standards be set? This could work for industries that may add specific pollutants to the water body unique to other industries in the watershed.

*Standards, whether state-wide or site-specific, are developed to protect beneficial uses. The MPCA's first priority would be to work toward the development of state-wide standards. However, site-specific criteria may be developed where there are no state-wide standards available, where the characteristics of a specific site alter the toxicity of a pollutant, or where the sensitivities of the site species differ from those used to develop the national criteria. "Natural background" may also be a consideration when establishing site-specific standards.*

Question 92. If yes, would that cause point source permits to change (more restrictive) when they "obviously" have been good enough to cause water quality to improved to meet Tier 2?

*Point sources permit conditions would not change unless it is determined that the activity is causing the lowering of water quality for the parameter in question.*

Issue Paper 6, Discussion Point 7. Should numeric biological standards be developed to reflect native aquatic communities?

Question 93. Is storm water bringing in invasive?

*Stormwater discharges are an unlikely source of invasive species.*

Question 94. Where is the science?

*Any standards development needs to be supported by science. Development of Tiered Aquatic Life Use (TALU) standards will provide a scientific basis for numeric biological standards.*

Issue Paper 6, Discussion Point 8. Should waters containing invasive species have some special designation indicating a biological impairment?

Question 95. Tough question-how do you deal with an invasive hitting a facility with biological impairment. Now they are established so the facility is now in nondeg and impairment trouble. Now if the facility has to treat is it double nondeg jeopardy?

*Exceptions for antidegradation review would be considered where treatment at a facility is necessary to control an invasive species in order to protect public health and welfare. A possible example of this is treating for zebra mussels at wastewater treatment facilities.*

Issue Paper 6, Discussion Point 9. Should waters currently supporting threatened or endangered species have some special designation similar to designating waters as ORVWs? What other approaches could be used?

Question 96. How would this fit into the MPCA triennial review process, or would it at all?

*The triennial rulemaking will be addressing new standards, and may in that respect, have some effect on nondegradation reviews. But the two rulemakings will be conducted separately and proceed on different time schedules.*

**Issue Paper 7. How are baseline conditions used in the assessment of impacts on receiving waters?**

Issue Paper 7. General comments/questions

Question 97. Watershed approach should be used to set baseline. Need to consider climatic conditions? For storm water what condition should be modeled, high flow, low flow, overflows? 100 yr storm, 10 year, 1 year.

*Agree that climatic conditions should be a consideration in antidegradation decisions. The critical conditions of the receiving waters for wastewater treatment facilities is 7Q10 (low flow), which is defined as the lowest average 7-day flow with a once in ten-year recurrence interval. Critical conditions for stormwater will need to be determined.*

Question 98. *Question:* why use a baseline when WQ was not good? The ecosystem, basin plan and watershed plan can be used to establish baselines by watershed with local and intergovernment cooperation

*For many states, including Minnesota, antidegradation baseline conditions are those conditions which existed on the date the waters received antidegradation protection (generally the date on which rules were adopted to protect given water resources). Having a fixed date creates a level of consistency in how baselines are established. With such an approach, however, there will be some waterbodies that have relatively poor water quality compared to past conditions. Creating baselines that are based on some type of “normal” condition (not associated with a particular date) would need to be based on a weight of evidence approach. Clear guidelines and criteria would need to be established on how these determinations would be made, otherwise the process may be considered arbitrary.*

*The current state rule protecting All Waters (Minn. R. 7050.0185) allows for the use of data collected after January 1, 1988 if there is no data available from that date or if the data is of better quality.*

Question 99. What about climatic conditions, either prior to some date or permit application?

*Adequate data about climatic conditions will be a consideration in antidegradation decisions.*

Issue Paper 7, Discussion Point 4. Should baseline conditions be allowed to be adjusted “upward” when there is an improvement in water quality? Why, or why not?

Question 100. What would be the incentive to improve water quality if new sets of standards kick in and you’re back to square one?

*Once a baseline is established, it provides a means of measuring future potential impacts on water quality. Minn. R. 7050.0185 (Nondegradation for All Waters) allows baseline quality to be adjusted where a discharge is eliminated or significantly reduced. EPA Region 9 antidegradation guidance also supports the concept of a fixed baseline unless some action improves water quality, which would allow for the baseline to be adjusted accordingly. EPA guidance (Water Quality Handbook, Second Edition, 1994) suggests that in situations where water quality improves to a point where a higher use class is achieved, those waters be upgraded to reflect the higher use.*

*We understand this perspective that adjusting baselines upward may be a disincentive to improving water quality and will consider this in the rule revision.*

Question 101. Yes, because it makes sense and is the right thing to do, with public input?

*It would seem reasonable to allow for public input if baselines are to be adjusted upward.*

Issue Paper 7, Discussion Point 5. Conversely, if the originally-established baseline water quality is permitted to decline (through the antidegradation review process), does the new, allowed water quality conditions become the new baseline?

Question 102. Isn’t that why you have a TMDL? Once maximum load is determined, that would be your baseline.

*No, the purpose of TMDLs is to restore the water quality of impaired waters back to applicable standards. The discussion point meant to imply that the decline in water quality remained above the applicable standard.*

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

Issue Paper 8. General comments/questions

Question 103. 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.

*Agree with the commenter that it is important to coordinate agency activities in order to have a comprehensive vision of water quality management.*

Question 104. How does all this come together? Conflicts?

*Determining “how this all comes together” is the intent of this rule revision, including the stakeholder process.*

Question 105. Tough issues. Good point by one attendee. What are the benefits of these outcomes?

*See response to Question 26.*

Question 106. 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.

*An effective general permit would allow the applicant to meet antidegradation requirements through fulfilling permit conditions, where permit conditions maintain water quality.*

Question 107. Should impervious area percentage be considered as a sufficient surrogate for a significant 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?

*For some NPDES-permitted stormwater activities (e.g. municipal) changes in impervious cover may be a useful tool in antidegradation decisions, including significance tests. Any threshold use to determine significance has to consider the impact to the characteristics of the receiving water. For example, saying that there is less than X% change in impervious cover and therefore is insignificant, without knowing the size (or other important characteristics) of the receiving water is not reasonable.*

*New Hampshire is considering using changes in impervious cover as a test for significance (see New Hampshire’s Stormwater Manual for proposed antidegradation guidance, <http://des.nh.gov/organization/divisions/water/stormwater/manual.htm>).*

*Changes in population may also be considered if significance tests are used in the implementation of antidegradation to municipal NPDES-permitted stormwater discharges.*

Question 108. 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?

*For the purposes of Tier 2 antidegradation reviews, significance tests are used to determine those activities that are considered de minimis. Usually some type of threshold related to the impact of the activity on the characteristics of the receiving water is used to make this determination. If the activity is below the threshold it is considered de minimis and would not need to undergo further review. Those activities would need to be reevaluated at the time of permit re-issuance. Where there is no change in the activity that would result in lowering of water quality, then presumably the activity would still be considered de minimis at the time of permit re-issuance.*

Question 109. 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?

*At this time the use of changes in impervious cover as a tool for antidegradation decisions for municipal NPDES-permitted stormwater discharges has not been determined. See responses to the Questions 107 and 108.*

Question 110. 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?

*More restrictive BMPs for the “Prohibited” and “Restricted” categories of ORVWs is one means under consideration for protecting these special waters. Where BMPs are employed to protect “Prohibited” waters, those BMPs must protect the receiving water so that no lowering of water quality will occur.*

Question 111. 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.

*Yes, the permit is the vehicle through which antidegradation is applied to municipal NPDES-permitted stormwater activities. Separate municipal stormwater permits will not be issued by the agency for each receiving water within the jurisdiction. However, individual waterbodies within the municipality’s jurisdiction must be maintained and protected according to the antidegradation requirements identified in the permit. Individual receiving waters are protected through a number of means including local*

*ordinances and meeting construction permit antidegradation requirements for development and redevelopment activities.*

Question 112. How will antidegradation be applied to non-traditional MS4s (watersheds, MnDOT, U of M, etc.)?

*Non-traditional MS4s must meet antidegradation policy requirements just as they must be met for traditional MS4s. Implementation methods will likely differ between construction, industrial and municipal stormwater discharges because of the unique characteristics of each stormwater type and the applicable responsibilities of the different permittees. How implementation of antidegradation may differ between traditional and non-traditional MS4s has not yet been determined.*

Issue Paper 8, Discussion Point 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?

Question 113. Flow should be an average not a one-day, but one month or year?

*The flow or discharge from a stormwater system will be a factor of storm intensity, duration and frequency. The proposed land use (such as impervious surface) also greatly affects the discharge flow. For NPDES-permitted stormwater discharges, flow may be considered a parameter of concern (POC) - that is a parameter which can reasonably be expected to result in degradation. Precipitation that produces overland flow may be averaged over various time intervals. Longer time intervals may mask degradation resulting from short duration events. For example, a four-week period with an average daily precipitation of 0.2 inches, may be the result of it raining 0.2 inches each day, or 5.6 inches one day within the an otherwise dry four-week period.*

*The MPCA will consider the time interval most relevant to the risk of degradation.*

Issue Paper 8, Discussion Point 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?

Question 114. Who determines what “significant” is?

*MPCA will make the determination of “significance” based, in part, on the information obtained from the applicant.*

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?

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.

Question 115. Significant activities? Significant rainfall events? Significant bodies of water? (why protect an urban drainage ditch to the same level as the boundary waters)?

*The intent of Discussion Point 2 (c) was to gather input in regards to “significant” discharges as related to the impact of those discharges to the characteristics of the receiving waters. The existing uses of a Class 7 urban ditch are quite different from the existing uses of the boundary waters. Not all waterbodies are protected in the same way. Existing uses must be protected for all waters (Tier 1 protection), high quality waters may not be degraded unless there is need to accommodate important social or economic development (Tier 2 protection), and new or expanded discharges are not allowed in Prohibited ORVWs.*

Issue Paper 8, Discussion Point 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?

Question 116. construction would always be new/expanded?

*Construction discharges would be considered new or expanded if there is an increase in loading (or otherwise degrading impacts) as a result of the activity. We have not yet determined how we measure these discharges either directly or indirectly through some surrogate measure.*

Question 117. unpermitted industries are they new?

*In a “non-regulatory” sense any new increase in loading (or other degrading impacts) would be considered a “new discharge” because the discharge was not in existence prior to a given point in time. The same concept applies from a regulatory point of view but any new discharge from a regulated source may be subject to antidegradation enforcement.*

Question 118. MS4s always expanded?

*MS4 discharges would be considered expanded if there is an increase in loading (or otherwise degrading impacts) as a result of the activity.*

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



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?

Question 119. “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?

*We will likely use this approach for the issuance of general NPDES stormwater permits. The alternative of reviewing each application under a general permit is not reasonable or practical.*

Issue Paper 8, Discussion Point 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.

Question 120. 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.

*Antidegradation decisions regarding the lowering of water quality requires that an assessment be made on how the proposed activity will impact receiving waters. The intent of Discussion Point 4 was to generate input from the stakeholders regarding appropriate and reasonable assessment methods for stormwater discharges.*

*Where monitoring data is not available or adequate, assessments may be conducted through modeling. Modeling may be a useful tool in estimating changes to water quality resulting from land uses and may be useful in identifying control measures to mitigate discharges. Ideally model predictions would be validated through monitoring of either the receiving water, or otherwise verifying that control measures are functioning as intended. Where an applicant can demonstrate that control measures are effective in mitigating discharges to the extent for which the permit was issued, then antidegradation requirements are met.*

Issue Paper 8, Discussion Point 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 desirable?

Question 121. 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?



*There appears to be two parts to this question. The first asks about the applicability of antidegradation to specific pollutants. Antidegradation does apply to any pollutant or form of pollution that lowers water quality. Because of the impossibility of assessing every pollutant or form of pollution that would cause degradation, it is reasonable to identify parameters of concern (POCs) considered in an antidegradation review. Also see response to Question 48 for more detail.*

*The second part of the question relates to the issuance of new permits and the application of antidegradation to NPDES-permitted stormwater activities. The revised rule will inform how antidegradation requirements will be met through permit conditions for permits issued after the adoption of the rule. How a newly adopted revised antidegradation rule impacts existing permits has not been determined. It would, however, seem reasonable that revised antidegradation provisions not be required until new permits are issued.*

Question 122. Simply? No new discharges are allowed to Lake Superior > if a new permit is required for applying non-deg to stormwater than what?

*Lake Superior is an ORVW. One option for NPDES-permitted stormwater discharges to the Prohibited portion of the lake is to not allow for any net increase in both pollutant loading volume beyond those conditions found on the date which those portions were designated as an ORVW. For those portions of Lake Superior under the Restricted category, net increases in pollutant loading and volume would only be allowed when there is no prudent or feasible alternative. If that Restricted portion is of high quality there must be demonstrated need to lower water quality to accommodate important social or economic development.*

Issue Paper 8, Discussion Point 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?

Question 123. We urge the MPCA to prepare a separate issue paper covering the following topics relevant to antidegradation:

- the differences between applying antidegradation to point sources and stormwater runoff,
- the cost and complexity of monitoring stormwater runoff with sufficient detail and rigor to provide meaningful information for antidegradation analysis and review, and
- the number of water bodies in the State of Minnesota (as compared to other states) and the meaning of this number in light of the analytic and review processes involved in antidegradation.

These issues are significant and affect all aspects of applying Antidegradation to stormwater. These issues mean that a number of techniques for analysis and review that may be appropriate for point sources and other states simply are not feasible for

stormwater in Minnesota. These issues should be addressed directly and formally. This should be done in a separate issue paper that deals with only these issues.

In describing the cost and complexity of monitoring stormwater runoff, we recommend referring to the following document: “Monitoring to Demonstrate Environmental Results: Guidance to Develop Local Stormwater Monitoring Studies Using Six Example Study Designs”, Center for Watershed Protection, August 2008.

*Critical and special issues related to NPDES-permitted stormwater activities where addressed in Issue Paper 8 “How should nondegradation be applied to NPDES-permitted stormwater activities”, at the corresponding stakeholder meetings in January, 2009, and at an additional stormwater-focused meeting held at the MPCA St. Paul offices in March, 2009. The following materials may be found on the Nondegradation Rulemaking Web page (<http://www.pca.state.mn.us/water/nondegradation-rule.html>)*

- *Issue Paper 8. How should nondegradation be applied to NPDES-permitted stormwater activities*
- *PowerPoint presentation for the January meeting*
- *Comments received from the January meeting*
- *Presentation materials and PowerPoint presentation from the March meeting*
- *Discussion points and comments from the March meeting*

*The unique characteristics of NPDES-permitted activities require that the Agency develop antidegradation implementation procedures that differ from other NPDES-permitted activities.*

*We agree with the commenter on the challenges of assessing impacts of stormwater discharges to receiving waters, including the cost and complexity of monitoring. Monitoring runoff from each runoff event, from each discharge location to each receiving water is not reasonable. Where monitoring is not employed there must be some means to measure the effectiveness of control measures. In other words there must be some linkage between what is required in the permit conditions and maintenance of water quality. Ideally there would also be a means of validating that the permit conditions do in actuality protect the receiving water.*

*We also agree that compared to most other states, Minnesota is challenged in applying antidegradation requirements to our numerous waters.*

Question 124. If Tier 2 waters are described as any water that exceeds the water quality standards for any single parameter, it would appear that all waters will be classified as either Tier 2 or Tier 3 waters. It is difficult to imagine how the water quality in any water body would not exceed the water quality standards for at least one parameter. Is this correct?

*Yes, this is correct. A preferable way of defining antidegradation Tiers is not as waterbodies themselves, but as levels of protection. The Tier 1 level of protection, which*

*ensures that existing uses are maintained and protected, applies to all waters whether they are impaired for certain parameters, are of high quality or even outstanding resource waters. Existing uses are defined as those uses attained since November 28, 1975 and the water quality necessary to support those uses.*

*Under a parameter-by-parameter approach for protection of high quality waters (Tier 2 protection) a given waterbody may be impaired for one parameter (where the parameter is below or worse than the standard) and be of high quality for another parameter (where the parameter is better than the standard). Tier 2 protection is required for those parameters that are better than the standard. Tier 3 protection is provided for those waters specifically designated as ORVWs. No new or expanded discharges are allowed to the Prohibited category of ORVWs. For the Restricted category, new or expanded discharges are allowed only when there is not a prudent or feasible alternative.*

Question 125. In the case of cities that have MS4 Permit coverage, it appears that the application of antidegradation is closely linked to the MS4 Permit coverage. In some aspects, MS4 Permit coverage is extended for the entire jurisdiction of a permitted city. In others, the Permit requirements are only applied to land areas that are served by the city's conveyance system. For every city (based on Federal regs), there is an exemption for land that is used for agriculture or forestry. Will antidegradation be applied (for analysis and review) to MS4 cities on the basis of their entire jurisdictional area or just the area served by their conveyance system and not used for agriculture or forestry? This is a significant question. Please provide a definitive answer, including an opinion from the USEPA, to this question as soon as possible.

*We are not prepared to provide a definitive answer at this time. It would seem reasonable that the applicant be responsible for discharges that are subject to NPDES permitting authority. 40 CFR 122.3 provides an exclusion for NPDES permit coverage for the introduction of pollutants from some nonpoint source agricultural activities. This issue, along with others related to this rulemaking will be presented to the EPA for their opinions.*

Question 126. Under the current MS4 Permit, thirty Minnesota cities were required to perform a nondegradation loading assessment and prepare a nondegradation report. The submittals from these cities represent a significant effort to address antidegradation for stormwater. Please describe how these submittals will be used to inform this antidegradation rulemaking process. Also, please provide a description of the relationship between the review of these submittals, the generation of a comprehensive report on the information in these submittals, and the schedule for this aspect of the antidegradation rulemaking process.

*We feel that the appropriate linkage between the nondegradation rulemaking and the materials submitted by the 30 selected cities is to inform the revised rule as to how nondegradation provisions can best be implemented for NPDES-permitted stormwater discharges. Results of the Loading Assessments will provide insight into how assessments may be used in the revised rule and guidance in determining if a discharge from a*

*municipality is to be considered “expanded”. The Nondegradation Reports could potentially be used in the development of how alternatives analyses will be conducted. An additional consideration is how the city-wide modeling approaches for the current assessments relate to the need to consider any load increases and nondegradation review on individual water resources.*

*The materials submitted by the cities demonstrated what was expected, that development generally resulted in expanded discharges. The modeling showed that BMPs, if they are properly functioning, are effective in maintaining or reducing loadings of phosphorus and total suspended solids, but that volume will tend to increase over time unless volume reduction strategies are employed. The modeling conducted by the selected MS4s generally assumed that structural BMPs were operating within the design capacities and standard effectiveness. If modeling is to be used in the revised rule in the determination of whether a discharge is “expanding” in regards to increases in loadings of total suspended solids or phosphorus, there may be a need for validating that those BMPs are indeed operating within certain design criteria. Where there are increases in volume, additional or improved BMPs should be considered that would avoid volume increases. If BMPs are not available to avoid volume increases altogether, a nondegradation review would be required which would include, among other things, an alternatives analysis that would explore what BMPs may be available to minimize or mitigate the resulting increases in volume.*

*The MPCA Stormwater Program has sent out a general letter to all of the selected 30 cities that summarizes their findings. They are in the process of responding to individual cities regarding the Loading Assessments and Nondegradation Reports, including SWPPP modifications.*

*The MPCA staff involved in the rule revision are in dialog with stormwater staff in regards to how the information obtained from the selected cities may be incorporated into the revised rule.*

Question 127. The meeting presentation include the following language:

“Antidegradation is generally only actively enforced where there is regulatory authority (control document).” Does the MPCA have functions other than active enforcement that enable it to apply antidegradation to situations where there are no NPDES permits or other control documents?

*In this rulemaking we are exploring ways in which antidegradation may be implemented beyond which has traditionally been done (through issuance of NPDES permits).*

*Also see response to Question 3.*

For example:

- Should the MPCA apply antidegradation to every drainage area that receives State grant funding for water quality improvements?

*The rulemaking may consider including antidegradation requirements when state funding is used for grants associated with activities that impact water resources.*

- Should antidegradation be applied to every drainage area covered by a TMDL and included in all TMDL implementation plans?

*Antidegradation applies to TMDLs in that existing uses must be maintained for all waters and the activities may not cause or contribute to an impairment. Inclusion of such language in TMDL implementation plans seems reasonable.*

- Should antidegradation be linked to shoreland management?

*Activities that occur on the land impact the quality of the receiving waters. Better management of shoreland activities will result in better protection of our water resources. Application of antidegradation provisions to NPDES-permitted stormwater discharges will influence how pollution control measures are employed to protect receiving waters. These pollution control measures are essentially land management measures used to protect water quality.*

*Antidegradation is one of a number of tools to protect water resources. Another such tool is the Minnesota DNR's Shoreland Rules.*

- Should antidegradation be addressed during environmental reviews?

*There does appear to be some commonalities in the environmental review process and antidegradation. Both, for example, address de minimis impacts and economic considerations of the proposed activity. How the two processes may relate to each other and whether they can be done in conjunction with each other needs further exploration.*

The title of Rule 7050.0185 is "Nondegradation for All Waters". Is it fair to apply antidegradation only in situations where NPDES permits are in effect when the MPCA may be able to use other authorities to apply antidegradation in other locations and situations? Agriculture and forestry may be exempted from NPDES permitting, but does that exemption include antidegradation?

*See response to Question 3.*

Question 128. Will antidegradation be applied to farms with permitted feedlots and/or manure management plans?

*The following information will be used in MPCA's considerations on how antidegradation provisions may apply to feedlots and manure management plans.*

*Production Facilities Requiring NPDES/SDS permits*

*Antidegradation requirements may be implemented and enforced through regulatory actions where there is Clean Water Act authority. Those feedlot operations requiring*

*NPDES permits may thus be subject to these requirements. NPDES or SDS permits are required for all feedlots with 1,000 animal units or more, or that are defined as a concentrated animal feeding operation (CAFO) under federal regulations (40 CFR 412).*

*Minn. R. 7020.2003, Subp.2 requires that NPDES/SDS-permitted facilities comply with federal regulations found at 40 CFR 412. These regulations require that, for dairy and cattle (other than veal calf) operations, there must be no discharge of manure, litter, or process wastewater pollutants into waters of the U.S. from the production area except when the production area is designed, constructed, operated, and maintained to contain all manure, litter, and process wastewater including the runoff and the direct precipitation from a 25-year, 24-hour rainfall event and precipitation causes an overflow of manure, litter, or process wastewater. The same is true for horse and sheep operations, but discharge design criteria is for a 10-year, 24-hour rainfall event. New source swine, poultry, and veal CAFOs must be designed and operated so that there is no discharge for any rainfall event.*

*The vast majority of NPDES- permitted feedlots are total confinement sites where all manure and all animals are kept under roof, and where the manure storage is not subjected to rainfalls that could cause overflows. However, at feedlots which have manure storage that is not kept under roof, precipitation events may occur that are greater than the design criteria resulting in a discharge and possibly lowering the quality of a receiving water. For total confinement feedlots (animals under roof) with outdoor manure storage, the only rain that accumulates in the basins is the result of direct precipitation. Permit conditions require that feedlot owners maintain at least one foot of freeboard capacity in the basin. The likelihood of a 12-inch rainfall event occurring at the same time that a given basin is at allowable maximum capacity is extremely low. Even at feedlots where open lot runoff flows into the basin (non-confinement sites), the likelihood of the 25year storm occurring right at the time that the basin is nearing capacity will be considerably less than once every 25 years.*

*The MPCA will need to make a determination of whether such discharges (or the risk of such discharges) are significant, thus requiring permit applications to undergo antidegradation review. If these intermittent discharges are to be considered insignificant (de minimis), justification for why they are insignificant must be provided based on the impacts to the characteristics of the receiving water.*

#### *Facilities Not Requiring NPDES/SDS Permits*

*Feedlot operations with fewer than 300 animal units are not required to have a NPDES/SDS permit for the construction of a new facility or expansion of an existing facility if construction is in accordance with technical standards. Those operations less than the large CAFO threshold with 300 animal units or more, and less than 1,000 animal units, are required to obtain a streamlined short-form construction permit for construction activities. These permits are issued by delegated county authorities (Minn. Statute 116.07, subd. 7) or by the MPCA for non-delegated counties.*



*Water quality protection is provided through effluent limits specified in Minn. R. 7053.0305. Discharges from these feedlots must not exceed 25 milligrams per liter (based on the average of all samples within a calendar month) of Biochemical Oxygen Demand. If the discharge is to a lake or reservoir, the discharge must also not exceed the limit of 1 mg/l of phosphorus.*

*Federal regulations at 40 CFR 131.12 (a)(2) requires that the highest statutory and regulatory requirements for new and existing point sources and all cost-effective and reasonable BMPs for nonpoint sources be achieved. Unlike NPDES-permitted feedlots, which are designated as point sources of pollution, these feedlots are considered nonpoint sources where the discharge is not conveyed in a pipe, ditch, fissure, or other conveyance to a water of the state. Current MPCA nondegradation policy does not explicitly address unpermitted nonpoint discharges.*

*The MPCA may consider if and how to incorporate antidegradation requirements when granting counties the authority to process feedlot applications. It is important to note that Minn. Statute 116.07, subd. 7 (i) requires that any changes to existing rules governing feedlots for which the county issues permits must be submitted to the members of legislative policy and finance committees with jurisdiction over agriculture and the environment prior to final adoption.*

#### *Manure Management Plans and Land Application of Manure*

*Due to current federal and state regulatory structure, the application of antidegradation requirements to manure management plans may not be possible or necessary.*

*Federal regulations at 40 CFR 122.23 (e) state that manure land application from CAFOs are subject to NPDES requirements except where it is an agricultural stormwater discharge as provided in 33 U.S.C. 1362(14).*

*State rules have been established to maintain and protect the quality of receiving waters from land application. Land application requirements found at Minn. R. 7020.2225 state that manure and process water must not be applied in a manner that will result in a discharge to waters of the state during the application process or cause water pollution due to manure-contaminated runoff.*

Question 129. Will wetlands be viewed as receiving waters for the purposes of antidegradation? It should be noted that if the answer is “yes”, this will add an immense workload and regulatory burden to this program.

*Wetlands are considered water of the state to which Minnesota’s water quality standards, including antidegradation provisions, apply.*

Question 130. Please formally consider an approach based on land use, rather than receiving waters, for applying antidegradation to stormwater. Please add this discussion to the rulemaking stakeholder process.



*Any approach to the implementation of antidegradation must consider the impacts to the characteristics of the receiving waters. Any approach to how land use or changes to land is used in antidegradation decisions will need to have a clear correlation between the land use (or changes to land use) and the associated impacts (either degradation or improvement) to the characteristics of the receiving water.*

### **Issue Paper 9. How should cumulative impacts be addressed?**

#### Issue Paper 9. General comments/questions

Question 131. 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.

*Assessing and tracking cumulative impacts will require staff time and state financial resources. How much time and resources depends, in part, on the extent of the work. It would not be reasonable, for instance, to assess and track cumulative impacts for all potential pollutants on every waterbody that receives any type or size of discharge. A more reasonable approach is to address cumulative impacts on a case-by-case basis and where adequate information is available. Over time more and better assessment information will be available (e.g. through ongoing condition monitoring efforts and improved data storage and retrieval systems) and will be used to better understand cumulative impacts.*

*Funding for such efforts will likely come primarily from state resources, but some expenditures on the part of the regulated community may be required in assessing the characteristics of receiving waters.*

Question 132. 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?

*Establishing some type of benchmark or baseline from which changes in water quality can be measured is important. Without this there is the possibility that relatively small incremental lowering of water quality may occur without any type of review process. How much effort should be put into the establishment of baseline conditions will be considered. Although the establishment of baseline conditions may be important, perhaps a more effective use of resources would be conducting alternatives analysis.*

*Standards review and setting is an ongoing process. In terms of antidegradation, the relationship between the establishment of baseline conditions and water quality standards is the means to describe the increment of water quality that is better (or worse) than the standard (e.g. assimilative capacity). Standards rarely change, but if they do the increment of water quality that is better (or worse) than the standard would change as a result. Any changes to the standards would be reflected in the permit.*

Issue Paper 9, Discussion Point 1. Should there be an understanding of cumulative impacts before an individual permit or certification is issued?

Question 133. What model/method do you use to determine impacts? Is it up to the permittee to determine this?

*No specific model or methods for determining cumulative impacts have been decided upon. Cumulative impacts for conventional pollutants will likely be expressed, where possible, in terms of mass loading and how this affects the concentration in the receiving water. Cumulative impacts may also be measured by other means, including changes to the receiving water's biota. How these changes in stream or lake biology will be expressed will need to be determined.*

*The permittee may be required to provide information regarding the condition of the receiving water, but the agency would be responsible for determining cumulative impacts. It may be necessary to describe whether and when the description of cumulative impacts is related to cumulative impacts on an individual pollutant from multiple sources, or multiple pollutants from a single source, or both. Perhaps the single pollutant/multiple source approach is easiest to address (traditional analytical monitoring provides the practical means), while the multiple pollutant evaluation is best left to analysis of biota.*

Question 134. Yes! How can we practice protection w/o accounting for cumulative impacts?

*Conceptually agree with the commenter. How this is reasonably accomplished is the challenge and is being considered. Also see response to Question 131.*

Issue Paper 9, Discussion Point 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?

Question 135. (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?

*A reasonable understanding of ambient conditions is necessary in the decision of whether and to what extent water quality may be lowered. This information may need to be obtained before a proposed activity lowers water quality. The need for the establishment of ambient conditions may be avoided through the application of control measures, where it can be demonstrated that those control measures will not cause lowering of water quality.*

Question 136. For the option of using cumulative impact as a trigger for review: How do you trigger a review for possible future updates?

*A review would be triggered when the cumulative threshold has been exceeded. It is not possible to know all future activities so conducting a review on speculation is not reasonable. A review based on exceeding some cumulative threshold would only be required when an activity is proposed.*

Question 137. 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?

*At this point how the use of information regarding cumulative impacts and any new effluent guidelines developed by EPA is not known. However, effluent guidelines are developed on the premise that new technologies will continue to reduce pollutant loadings with each subsequent revision. This is consistent with the goal of the CWA for zero discharge of pollutants. This can only have the result of improving ambient water quality.*

Issue Paper 9, Discussion Point 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?)

Question 138. 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.

*Dilution potential may be one way to express the increment of water quality consumed in a cumulative sense. Depending how it is interpreted, dilution potential may or may not consider the ecosystems biotic ability to assimilate or otherwise attenuate pollutants or forms of pollution.*

Question 139. 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!

*Agree that the determination and projected use of assimilative capacity for stormwater discharges is challenging and may not be practical in some stormwater situations (e.g. municipal discharges with many receiving waters and many discharge locations, and construction discharges which are temporary in nature). The permittee may be required to provide information regarding the condition of the receiving water in order to determine baseline conditions.*

*We currently do not consider the percentage use of a given standard as a means of determining impacts to the receiving water.*

Issue Paper 9, Discussion Point 4. At what spatial scale should cumulative impacts be considered?

Question 140. More study needed? (expensive/time consuming).

*More study may be needed to determine cumulative impacts on a spatial scale for certain pollutants. See response to Question 141.*

Question 141. 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?

*Scientifically the scale of cumulative impacts depends on the fate and transport of different types of pollutants. Persistent pollutants (those that don't readily break down in the environment) will have a much larger scale than those that are not persistent. A policy determination, based on science, would need to be made for the scale(s) to which cumulative impacts should be addressed.*

Issue Paper 9, Discussion Point 6. Should the MPCA develop and implement a tracking system to monitor cumulative impacts?

Question 142. 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.

*See response to Question 131.*

Question 143. How will this be funded? I think it's a good idea, but it's a huge undertaking.

*See response to Question 131.*

Question 144. 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.

*Agree MPCA would need to be responsible for some type of tracking or accounting system.*

Question 145. Who pays the bill?

*See response to Question 131.*

### **Issue Paper 10. How should Outstanding Resource Value Waters be protected?**

#### **Issue Paper 10. General comments/questions**

Question 146. One of the potentially greatest impacts of BWCAW ORVW is individual septic systems. These are regulated. Ground water impacts that reach ORVW is a problem that should be considered and enforced. How?

*The Minnesota legislature has very clearly identified the local units of government as the authorities responsible for enforcing Subsurface Sewage Treatment Systems (SSTS) standards. Local ordinances, which are based on state SSTS regulations, impose design and operating conditions and SSTS are licensed through the local unit of government, usually the county but in many cases, at the township level. However, local septic system ordinances, while not enforced by the MPCA, could be a regulatory mechanism through which the MPCA could seek application of antidegradation standards.*

Issue Paper 10, Discussion Point 1. Minnesota Rule 7050.0180 currently does not have provisions for temporary lowering of water quality in ORVWs. Should such provisions be included in the revised rule? If so, what criteria should be used to determine the allowance for temporary lowering of water quality in ORVWs? Missouri’s definition of temporary degradation (page 3) may be a good starting point.

Question 147. What happens if the expected “temporary” lowering ends up being persistent? I do think that we need to address the reality that this happens, but we need to be clear and definitive on the criteria....however, I have no suggestions at this point for those criteria.

*There would need to be some mechanism in place to hold accountable the party responsible for the persistent lowering of water quality. That mechanism and the resulting consequences should be identified in antidegradation implementation procedures.*

Question 148. While Missouri’s definition might seem reasonable on paper, how many of their criteria can be definitively addressed in practice? How do you determine the percent change in ambient conditions when you don’t know what the ambient conditions are

(how much of a research study would be needed to determine ambient over how long a period of time)?; How do you know which parameters to focus on and who decides?

*Missouri's recently adopted rule defines temporary degradation as it applied to Tier 3 protection as (this definition is very similar to that found in Oregon's antidegradation implementation policy):*

*Degradation that is non-permanent and the effects can be regarded as insignificant following a review of the a) length of time during which water quality will be lowered, b) percent change in ambient conditions, c) parameters affected, d) likelihood for long term water quality benefits to the segment (e.g., as may result from dredging of contaminated sediments), e) degree to which achieving the applicable Water Quality Standards (WQS) during the proposed activity may be at risk, and f) potential for any residual long-term influences on existing uses.*

*It is likely that not all of the listed criteria would be fully understood in order to make the determination. One possible approach is to require a greater level of understanding for activities that have a higher risk of persistent degradation.*

*Missouri antidegradation provisions define Pollutants of Concern as:*

*Discharged pollutants, or pollutants proposed for discharge that affect beneficial use(s) in waters of the state. Pollutants of Concern include pollutants that create conditions unfavorable to beneficial uses in the water body receiving the discharge or proposed to receive the discharge. For example, where pH, temperature, and dissolved oxygen are in noncompliance with applicable numeric criteria.*

Issue Paper 10, Discussion Point 2. How should the protection of Restricted ORVWs be different than from other waters where lowering of water quality is permitted? Some options for considerations are shown below:

- Create and clearly define two levels of non-degrading alternative analyses.
- Allow for two water quality-based levels of protection.
- Protect the characteristics that make the water body an ORVW.

Question 149. If we are now going to create different levels of allowable degradation for impaired waters (under the “all waters” category), unimpaired waters (also under the the “all waters” category), and ORVWs, this will become very confusing and much more difficult to administer. Are the unimpaired waters truly cleaner than impaired waters (or are they dirty waters that have not yet been assessed)?

*This rule will not to allow for further degradation of impaired waters. Where waters are impaired, the water must be restored to the water quality standard, existing uses must be maintained and activities must not cause or contribute to the impairment. Lowering of water quality for high quality waters (waters other than those that are impaired),*

*including Restricted ORVWs, will only be allowed where there is a demonstrated need to accommodate important social or economic development. The characteristics that define a Restricted ORVW must be maintained.*

*Under a parameter-by-parameter approach to protecting high quality waters, for those parameters that are better than the standard, that water is “cleaner” than a water that is impaired for the same parameter. A given water body must receive Tier 2 protection for the parameters that are better than the applicable standard. Impairment status is dependant upon assessment of individual waterbodies.*

The rule will need to deal with the limbo of having listed waters without TMDLs and the changing status of waters (e.g., they get listed, the TMDL is done, the TMDL is implemented). Adding more categories won't change the fact that there will always be exceptions to the rule (e.g., unforeseen conditions or changing circumstances) that must be addressed. Has anyone determined whether the ORVW rule has, in actuality, provided a higher level of protection than the “all waters” rule? If not, maybe we should be thinking about 1 rule, not 2 or three cumbersome, parallel tracks. Alternative processes should only be adopted if they can create outcomes that can be demonstrated and that are distinguishably more protective. The ORVWs seem to be significantly different in character (although I'm not sure whether there would be agency agreement on how to define those differences or even to define the character), which lends more credence to the need to be characteristic-focused when deciding protection methods. The idea of merging the ORVW analysis with a high quality water analysis on a parameter by parameter (or use) basis, again, adds complexity that will add confusion, complexity and administrative difficulty – will such a split review really result in meaningful and appropriate protection methods? For storm water, the limiting factor for nondegradation seems to be BMP effectiveness; if modeling the level of protection can only be done to a coarser level, then requiring a finer level of review is not helpful (think back to your significant digits lessons in math).

*To answer the first question in the above paragraph, a formal comparison of the protection of “All Waters” and ORVWs has not been conducted. However, the level of protection afforded Prohibited ORVWs is, without question, higher than the level of protection afforded “All Waters” and Restricted ORVWs in that no new or expanded discharges are allowed to Prohibited ORVWs. The intent of Discussion Point 2 was to generate discussion about the level of protection for Restricted ORVWs compared to other waters (All Waters, non-Prohibited ORVWs). The current rule requires a prudent and feasible test for proposals to impact a Restricted ORVW, but does not formally require a demonstration of need for important social or economic development if the water is of high quality.*

*Through the rulemaking process we are attempting to clarify how ORVWs and other waters are protected.*

Issue Paper 10, Discussion Point 5. A number of questions related to NPDES-permitted stormwater activities arise from the definition of “expanded” discharge:



- Is it possible to have increases in volume without increases in pollutant loading?
- Can an increases in volume, by itself, be considered degradation? This would depend, in part, on runoff volume in relation to the size of the receiving water.
- Is it reasonable for the agency to require that applicants maintain storm water runoff conditions (volume and pollutant loading) at baseline conditions? In other words is it reasonable to require no net increase in storm water impacts as development and redevelopment occurs?

Question 150. If ORVWs are such spectacular MN resources that deserve the highest level of protection, why haven't all the listed ORVWs been prioritized by the MPCA for completion of the impaired waters assessment (in advance of assessing "all waters" that have a lower quality standard), so that the TMDL process can be used to advance their protection?

*The order in which waters are assessed and the prioritization of waters to be assessed is beyond the scope of this rulemaking. The impairment status will have no bearing on ORVW designation status.*

Question 151. No it is not reasonable to expect SW will not have an impact. This is a no granted scenario. We are back to baseline, Who develops baseline ??? Big problem.

*Baseline conditions will be determined by the agency. The determination may be based, in part, on information required from the applicant of a proposed activity.*

*Also see response to Question 98.*

Question 152. With LID and other means to manage through infiltration and treatment technologies available for quality it's possible to maintain or reduce from baseline. What's the definition of reasonable in cost and time required?

*Timing is a fairly easy question. Implementation schedules - for LID and other alternatives – will have to fit into the schedules set by current permit procedures. Existing permits have 5-year renewal cycles. Schedules for new permits will develop as conditions and procedures are approved.*

*Two interpretations fit the question about reasonable cost.*

1. *Reasonable cost as a relative value.*

*One interpretation views cost as it relates to the choices that permittees confront. Antidegradation reviews will display alternatives in terms of their costs and in terms of their impact on pollutant loading. These two estimates can be combined into a cost-effectiveness value and used to rank alternatives. (See the reply to question 83 for more discussion on cost-effectiveness.)*

*Consider an example in which LID is one of four alternatives presented in an antidegradation review. Cost-effectiveness estimates, based on pounds of pollutant removed from discharge, show how the alternatives are ranked:*

<u><i>Alternative</i></u>	<u><i>Cost-effectiveness</i></u>
<i>LID</i>	<i>\$ X/pound</i>
<i>A</i>	<i>\$2X/pound</i>
<i>B</i>	<i>\$3X/pound</i>
<i>C</i>	<i>\$0.5X/pound</i>

*In the example, it would not be reasonable to select alternatives A or B in place of LID. Likewise, it would not be reasonable to select LID in place of alternative C. Bear in mind that cost-effectiveness ranking is not usually as simple as shown in the example. Adjustments may need to be made to compensate for scale variance and secondary impacts.*

## *2. Reasonable cost as an indicator of affordability.*

*Another way to view cost is in terms of a permittee's financial capacity. Permittees have to do things other than comply with antidegradation rules. Private firms have to make enough money to stay in business. Budgets limit municipal spending. In both cases, incurring new cost requires a permittee to a) cut other costs so that new costs are offset, b) raise new revenue to cover new costs or c) accomplish some combination of the first two options.*

*All three choices require someone to give up something in order to cover the new cost. Standard financial reports can be used to evaluate the choices that will have to be made in order to maintain local water quality. USEPA has developed a set of worksheets that are recommended for affordability evaluations. Find the worksheets and a guidance manual at <http://www.epa.gov/waterscience/standards/econworkbook/>. Worksheets are presented for both private sector and municipal enterprises.*

*USEPA's guidance materials do not have specific affordability criteria. Instead, the worksheets compile the information that is needed to evaluate affordability. Site-specific factors are likely to make affordability a variable, rather than a constant, term. Although specific criteria are not available, consistent and clear analytical methods can make evaluations understandable and fair.*

*Whether "reasonable cost" is interpreted as a matter of relative value or affordability, proven evaluation methods are available. As with antidegradation reviews, evaluation of alternatives will rely on local data when those data are reasonably available. Because*

*evaluations will vary from site to site, a single definition of reasonable cost is not feasible.*

Question 153. Addressed in Construction Stormwater Program?

*The concept of “expanded discharge” as it relates to antidegradation is not addressed in either the Construction Stormwater Program Web site, or in the current NPDES general permit authorizing stormwater discharges from construction activity. It is an anticipated need in nondegradation revisions.*