

*Nondegradation Stakeholder Meeting Notes
September 25th, 29th and 30, 2008
Compiled Comments*

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

General Comments

- Please remember and utilize 30 non-deg analysis that were required and submitted to the PCA. These could contain very applicable information.
- As with the concept of one “Water Quality” process- not separate program for impaired TMDL, non-deg, pollutant trading, etc.
- we need to remember TMDLs/nondeg/MS4 permits
- we need to remember that agriculture also contributes
- is it achievable?
- sustainable development-very difficult
- Observation*- Build this in the reverse of the way we are doing it-rule drives the permits.
- The CWA should be repealed. As long as Ag is exempt, clean water is only a pipe dream i.e. Lake Pepin. Urban areas contribute 3% of the pollutant loadings (ie. Phosphorus, sediment) –Ag is a much larger contributor and nothing is being done-This whole exercise is a waste of time and money.

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.**
- Use the basics: TSS, TP, Volume
 - Keep manageable.
 - How it is setup now you leave flexibility but at the same time you get many different answers.
 - Yes, stick to the basics – P, turbidity, bacteria, DO, and prioritize relative to existing standards.
 - Yes, highest human health risk for other factors, use cost benefit analysis to determine course of action.
 - Choose a base set of parameters and then evaluate on a watershed specific (i.e., peak flow, TSS, temp as in stream or possible mixing zone core, then look at specific parameters for impairments)
 - Perhaps you can group certain parameters and use a key parameter as an indicator for the group, such as TP for eutrophication-related parameters.
 - Prioritizing/ranking should be addressed by professional staff with participation from several agencies concerned with water quality considering all above mentioned.

- Should have a general setup traditional pollutants that non-deg always looks at for projects that trigger non-deg review
- Could have a second set as parameter base on an industry specific type of pollutant (mining=Hg, feedlot=E.coli)
- Will it be toxic?
- Is it also persistent?
- Is it bioaccumulative?
- Can it be prevented – instead of treatment?
- There needs to be prioritization and limits to the lists so that the process is manageable. If the process is too cumbersome, and takes too much time, it will make this state undesirable for doing projects.
- Probability of impact to receiving water should be a good one, but also activities that are not currently regulated should receive priority.
- First look at what pollutants are already a priority in other regulatory programs and why.
- Bioaccumulator
- Toxic
- Mutagen,
- Stormwater- can focus on parameters articulated in the permits.
- Intensive statewide monitoring, it is justified?
- Don't ever let anything go into it?
- Since statute is quite broad in defining pollutant it would be helpful to have a ranking of parameters. Looking at other water quality programs such as TMDLs, etc. and using parameters that those programs use as higher concerns would be consistent. Thinking from a stormwater perspective, those pollutants that are transported through runoff and can be controlled easily by BMPs would be priorities.
- 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, parameters need to be limited for the purposes of anti-deg review to those likely to be present in the discharge or runoff to surface waters (probability) coupled with the potential for a given pollutant to cause undesirable impacts on the receiving water. Prevention or treatment costs should NOT be considered until later in anti-deg review when feasible and prudent alternatives to an action that has been determined to have the potential to lower water quality are sought.
- conventional parameters has just priority-BOD, TSS, TP, NH₃, NO₃. If these are ... others will follow.

b. When should “parameters of concern” be defined? For example, on a case-by-case basis at the time of permit application, predetermined based on activity type, or a hybrid approach where some parameters are predetermined, but some discretion is left to the state.

- Conventional parameters only others will follow.

- @ time of permit unless early WQ parameters are known.
- Use the priority of level of human health risk
- Pre-determine standards for parameters of high human health risk.
- Leave up to local level for lower-risk parameters based on cost-benefit analysis.
- Yes, case by case if surrogates indicate or if application indicates specific parameters of concern.
- For WWTPs, these should be predetermined to facilitate the multiyear planning process. Some discretion could be left to the state for emerging issues.
- Hybrid approach, some parameters are known and high priority, others of lesser concern but could be important in specific instances.
- Hybrid with examination of likely problem parameter by industry or development.
- Predetermined based on an activity type with the ability to look in a case by case basis for activities that don't fall into any category.
- Parameters of concern should be able to be identified based on the activity type.
- Look at receiving water-how to manage with limited resources
- not take forever to see a permit and miss opportunity and go somewhere else.
- Predetermined based on type of activity. Permittees would know what to plan and budget for in advance rather than be surprised when schedules are further along. Some flexibility should be worked into the permit for unusual situations.
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c. Where should these parameters be identified? For examples include in rule, guidance, permit, etc.

- What about chlorides?
- Guidance – keep flexible
- Guidance
- Rule for main surrogates, guidance/permit for others.
- I would lean toward a guidance.
 - General parameters should list in rule, secondary or site specific parameters in guidance or permit.
 - Guidance for permit writers.
 - Rule if possible and then make the permit follow the rule.
 - Rules specify guidance to be included by reference in permits on a case by case basis?
 - A statewide summary of WQ conditions, a compilation of watershed plans to be developed from the 8 watershed approach
 - In rule makes the most sense. Then there is no question as to what is required.
 - Parameters to be looked at in antideg review can be predetermined for many common

types of activity or sources. To make the rules effective and durable, MCEA recommends doing this in guidance, but including a general provision in rule for adding a parameter that is new, emerging, or routinely being overlooked in practice.

2) For chemical pollutants, under what circumstances (i.e., conditions, pollutants, receiving waters, etc.) would:

a) only concentration be used to describe impacts?

- DO, pH, E.coli, herbicides
- Depends
- BOD, NH₄ and other nonconservative parameters
- No clear answer
- toxicity, bio effects
- If nondeg is to continue relating to water quality standards, then concentrations should be used.

b) only mass loading be used to describe impacts?

- Sediment
- NPS-stormwater-erosion

c) both concentration and mass loading be used?

- P, N
- depending on circumstances of permit application.
- TSS/turbidity- example: TSS/turbidity-conc. is bio issue, load is erosion

Examples:

- A) Tier 1 as unimpaired and with a de minimus load,
- B) Impaired w/TMDL or low flow% vs discharge,
- C) Tier 2's and impaired for the chemical pollutant.

Both must be considered for phosphorus in systems where internal loading may be a concern at the point of discharge or downstream (e.g., Lake Byllesby and Lake Pepin). Both must be considered for TSS in systems where both turbidity and sedimentation are issues (e.g., Lake Pepin and lower MN river).

Examples:

- a) similar to TMDL?
- b) hardness values allow for metals availability decrease toxicity. Must consider the water body's needs with respect to priority pollutants.

- concentration for pollutants that easily go into solution; mass loading for those that are mainly solid; both for pollutants that can be found in both a soluble or solid form.

-General comments on Issue Paper 6 for this heading:

First, MCEA does not agree with the Agency's current practice of "grandfathering" existing pollution levels in NPDES permits where the discharge has not previously undergone anti-deg review (if the discharge is new or increased since 1975 (see comments

from meeting #2). Second, MCEA is concerned about the use of the term “significant increase,” which is undefined and also reverts back to the question of whether review is triggered (again, please see comments on “de minimus” thresholds from meeting #2).

-The question as to whether mass loading, concentration or both should be used is clearly dependent on the pollutant/parameter involved, conditions in the receiving water and downstream waters, and cumulative impacts. MCEA feels this is best handled through guidance prepared by the Agency’s water quality scientists, looking at both chemistry and biological impacts. For “unconventional” parameters, where determination of concentration and mass is difficult or irrelevant, impacts should be described in terms of the changes to baseline water quality conditions or desired taxa resulting from the proposal.

3) Should flow alterations or changes in water volume of a receiving water be addressed in antidegradation decisions? If not, why not? If so, give some examples of specific situations where these parameters should be addressed.

- Depends
- No
- Natural changes as part of background should be addressed, flow alterations unless increase flow from discharge cause change. Withdrawals are DNR jurisdiction.
Question: Would flow reduction from SW controls then become nondeg issue?
- The regulation of water quantity should be closely coordinated with the DNR.
- Yes, our streams in S.E. Minnesota can vary considerably in base flow within a year and over years.
- Yes, industry specific. Ex: if new industry to watershed is adding a lot of water to the impacted ravine system, need to address flow as a pollutant (impact on fisheries, stream bank erosion).
- Yes, if a receiving water is too low.
- I think that significant flow alterations should be addressed, perhaps more than 10%.
- Degradation is hard to measure in a very low flow environment due to draught, beaver dams, etc. that change flow regime. How do you account for natural fluctuations and associated “perceived” impairments?
- Where flow or level (lake and stream level) is a parameter of concern. Understand hydrology of all water bodies, watersheds and systems
- Flood potential, erosion
- Inc. in impact volume of flow, wetland F and V cause more .. and streambank erosion
- Allowance should be made for waters that can assimilate a bounce or fluctuation of water level/volume. The stream order method could be used in determining the ability of a water to handle increased flows or volumes.
- I struggle with how to address volume concerns as it relates to storm water discharges. Volume alone is not a pollutant. Of course, it has both a positive and negative relationship to pollution (e.g., diluting concentrations in some cases enabling water quality standards to be met, transporting pollutants, and possibly releasing pollutants to name a few). Further, accurately calculating storm water “flows” is a difficult undertaking and due to the inherent variability of climate

makes its use unsatisfactory. Perhaps it could be removed from the nondegradation discussion and dealt with as a separate issue.

Again, the question appears to re-visit the question of which projects/activities trigger anti-deg review...

-Yes-runoff volume increases via urban stormwater should be addressed through anti-deg review, in compliance with the Court of Appeals decision. There is an immediate need to evaluate the efforts of the first 30 cities to undertake review for methodology, findings, lessons learned, and applicability to other municipalities.

-MCEA has also previously commented on the need for review for:

- *water appropriations requiring a permit under Minn. Stat. 103G with the potential to degrade high quality waters; and
- *drainage improvements and repairs under Minn. Stat. 103E;

4) For the purpose of antidegradation decisions, is the use of surrogates to describe impacts to receiving waters where it is not possible to obtain direct measurements of pollutant parameters a good idea? Why or why not?

- Yes
- Yes
- No – generally poor linkage and detection levels are getting lower all the time due to improvements in lab methods.
- Surrogates can be used if there is a proven strong scientific linkage between the actual impairment and the surrogate. For example, research shows fecal coliform is a poor indicator of human health risk yet we still use it. Makes no sense.
- Yes, so long as there is a good understanding of surrogate relationship to parameter in the specific antideg application.
- Direct measurements are best, but surrogates can be useful or necessary substitutes. See Dr. Robert Megard, U of M, for his work on light attenuation in the major rivers and relating turbidity to secchi readings and suspended solids. See also Steve Klorbers work for Met Council on predicting TSS and TP loads from land use.
- It may be better than nothing where you don't have direct measurement.
- Yes and no. Surrogates are good if there is a direct scientific correlation that is strong. Ex., TSS/TSOS should have higher consideration as a surrogate compound T-tube measurement for turbidity,
- Yes, maybe TSS for many WW discharges this may be a good surrogate.
- It's a good idea to use surrogates where there has been valid studies done to demonstrate the relationship between the surrogate and then parameters of concern.
- Surrogates should be used that are indicative of a given H2O water body type.
- Should because we cannot check for everything but must at minimum be able to measure aquatic impact potential, etc.
- yes
- If there is a close relationship between the surrogate and the parameter then it would be acceptable. Actual monitoring data of the parameter would be the first choice. Options might be modeling or analysis of sediment core samples from the bottom of the receiving water. This would come the closest to replicating the actual baseline for the parameter.

-“Surrogates” may not be the right word and “indicator parameters” may not be either, but the concept of using fewer parameters to give an indication of larger problems is a good one as it relates to storm water, since it is inconceivable that anyone responsible for managing storm water could ever afford an accurate monitoring program to identify the full range of imaginable pollutants and their impact on the environment. As long as we, as a society, allow the continued production of chemicals that can pollute the environment, it is unreasonable to think that those at the end of the storm water pipe can be held responsible for resolving them.

- MCEA agrees that use of surrogates is necessary for some parameters, and that “when and how” guidance should be prepared by agency water quality scientists.

5) Should a designated use receive tier 2 protection for a given parameter where there is no standard for that parameter? Why or why not?

-No. You can’t designate without standards.

-No

-No

-No

-No, we can’t pull things out of the air. Decisions need to be based on sound science.

- Use limited resources wisely.

- Case by case – general items like flow, temp. I think so, but don’t create parameter unless necessary.

- Yes, standards are in a continuing process of development as emergent issues are identified, so we should have a precautionary approach to every issue.

- 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.

- Only if it is showing toxicity to fish on wildlife.

- 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?

- Create a standard as soon as it can be

- No, it then becomes arbitrary as to what should be done to protect that use. If the use is significant then a standard should be developed. If BMPs are to be implemented there should be a clear communication as to what standard the protection must comply with.

- This should be a standards driven process.

-Absolutely! As a matter of federal law, states are **required** to adopt standards to protect designated uses, and may not use the failure to do so to allow the quality of Tier 2 waters to be lowered without full anti-degradation review.

Establishment of Water Quality Standards Sec. 131.11 Criteria.

(a) Inclusion of pollutants: (1) States must adopt those water quality criteria that protect the designated use. Such criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use.

For waters with multiple use designations, the criteria shall support the most sensitive use. 40 CFR §131.12

6) What concepts, tools or methodology from TMDL programs could be used to evaluate proposed activities for the purpose of antidegradation review?

- Use info from the non-deg plans prepared by the 30 cities.
- Phased implementation, adaptive management, ecosystem specific standards.
- Meld the process together. TMDLs need to look at the bigger picture rather than just the impairment(s) the body of water is listed for.
- Water-quality models (e.g., Minnesota River Basin, upper Mississippi River-Lake Pepin, and lower Minnesota River).
- Watershed implementation of large scale practices but really TMDL has a different goal than nondeg.
- Monitor, evaluate, list if impaired, do study with load allocation. Fund implementation of BMP, continue monitor.
- Transfer of info from TMDL-non-deg stage of things, water quality monitoring/modeling data, as well as effectiveness monitoring and BMP implementation data.
- Any and all that apply. Let's not reinvent the wheel.
- TMDL makes me consider cumulative impacts with regard to non-degradation (for some reason). The idea of cumulative impacts must be considered.
- Watershed-based approach. GIS tools
- Land use inventory
- Intensive watershed monitoring
- Stakeholder involvement, definite standards, priority parameters, BMP effectiveness, clear goals, supplemental funding sources for implementation.
- It would be nice to have a system whereby proof of nondegradation would not be needed if accepted BMPs are in place and folks are in compliance with permits.
- As noted in Issue Paper 6 and at the third stakeholder meeting, there are valuable components of the

TMDL process that should also inform anti-deg reviews, including:

- Watershed scale—TMDLs are typically look at water quality impacts on an affected watershed scale, whereas anti-deg reviews (to the extent they are done at all) and NPDES permitting decisions tend to look at the end-of-pipe only (i.e., what is in effluent at the point of discharge).
- Cumulative impacts of all sources—TMDLs look at water quality impacts from all contributing sources of a pollutant/parameter of concern. This sort of look would be valuable in keeping clean water clean (avoiding the water quality train wreck that launches a TMDL).
- Nonpoint sources—as noted, nonpoint sources are accounted for in TMDLs. NPS should be accounted for in anti-deg reviews (“the State shall assure that there shall be achieved...all cost-effective and reasonable best management practices for nonpoint source control” 40 CFR 131.12 (a) (2)) but in practice are not.

In fact, EPA faulted MPCA in its 1989 letter approving Minnesota's anti-degradation rules. After stating that it was satisfied with MPCA's responses to its concerns with the *rules*, EPA went on to state:

...the *implementation procedures* (emphasis added) inappropriately restrict the application of the state nondegradation rules to activities regulated by means of

National Pollutant Discharge Elimination System (NPDES) or State disposal system permits.the procedures discourage applying nondegradation requirements to a number of activities that may degrade water quality, including nonpoint source activities. ...This interpretation is inconsistent with Federal regulations at 40 CFR §131.12 (a) (2). Letter from Charles H. Sutfin, Director, Water Division, USEPA Region 5 to Gerald L. Willet, Commissioner, MPCA, September 1, 1989.

One way to link these TMDL features into anti-deg review is to:

1. establish a limit on consumption of assimilative capacity by all sources in a receiving water's watershed,
2. trigger anti-degradation review for appropriate NPS activities,
3. look at NPS sources for point source activities undergoing review; and
4. for 2 and 3, look at NPS compliance with existing rules (feedlots, septic systems, ditch buffers, dredge and fill, etc.) and
5. for unregulated NPS activities, encourage trading.

7) Should numeric biological standards be developed to reflect native aquatic communities?

- No, keep aquatic communities out of non-deg.
- Is storm water bringing in invasive?
- Where is the science?
- No, the MCEA will have too much fun with this.
- They should not be involved with this. You will create something that you cannot manage with current staff and funds. Listing lake/water bodies impaired for invasive species would result in many water bodies being listed with no way to get them unlisted. Treatment and management of invasive species should be left to the DNR. The costs for managing invasive species is high and in many cases don't get great results. Doing bio standards will not result in fixing the problem.
- No
- No
- Maybe?
- Only if there is strong scientific evidence that the standard is appropriate and attainable for the various categories.
- Question?* Or designated use community.i.e. planted trout lakes (pre or post rotenone), planted trout streams, i.e north shore steelhead salmon fisheries?
- Yes, Neal Mundahl at WSU has worked on this for years and I think it may prove to be a better analysis of overall stream health than a pollutant by pollutant standard. How does a proposed contaminant affect the big community could be assessed in the lab.
- Yes, but there needs to be a baseline set first-- site specific standards may be needed.
- Yes, if possible.
- In the ideal world – maybe. That again is hard because the water chemistry is different for all lakes.

- I believe biologic indices should be utilized and/or considered because so much of non-degradation is with respect to aquatic life standards should be considered.
- No. Using such standards for biological protection is not accurate and can be subject to a significant level of professional judgement. Even in impaired waters, there is a very vague notion of what can be done to address impairments for biota. Single sampling events from years in the past are allowed to make determinations that a water is impaired yet considerable numbers of sampling events, time and money must be invested to prove otherwise or to make a change. There is too much variation in biologic conditions and the external factors that affect them to rely on numeric standards.
- I think IBI is a nice idea, but realistically, it is decades away from implementation, particularly if “reference water bodies” that identify pre-development communities cannot be identified.

8) Should waters containing invasive species have some special designation indicating a biological impairment?

- No
- No stay out of DNR’s job, focus on current tasks before adding new task that are new to the field and would require extensive resources and money.
- No
- No
- The DNR is responsible to invasive species. Unless there are other impediments that make it more difficult to remove the invasive species, leave them out of this process.
- This shouldn’t be addressed in the antideg rule. DNR is currently working on this issue.
- 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?
- Yes, invasives suppress natural species and shouldn’t be allowed to totally dominate a water body so some control measures should be called for.
- Don’t know enough – need to have DNR/USFWS work closely with MPCA on this.
- Sounds like it would be something to investigate, again, not an endangered species expert.
- No, doesn’t relate.
- Yes, but some invasives need to be defined and some are not harmful, but beneficial. Small mouth bass are invasives in the Ely area, but are now a prized game fish.
- MnDNR regulates, leave this issue to proactive programs - LGUs/communities, etc. We do not need a double/parallel rule.
- Yes, coordinated with DNR
- Speaking from a stormwater perspective, invasive species are a result of multiple activities that are not related to nor can they be controlled by the same BMPs that would address other water quality parameters. I do not see invasive species as part of the antideg rule. Other regulatory agencies, such as the DNR, have programs and regulations that have a much better chance of controlling invasive species.

- Invasive species should be dealt with in another arena particularly since the uncontrolled sources have little to do with any given discharge permit.

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?

- No
- No, PCA should stay out of the bio standards and threatened/endangered species.
- No
- No
- Yes
- Discharges to these should be part of EAW/EIS decisions
- Should be posted to raise public awareness with info about how to control.
- *Question:* How would this fit into the MPCA triennial review process, or would it at all?
- Yes, but only in that the individual location should be evaluated to determine the surrogates and/or priority pollutants that should be considered. A “one standard fits all” will not necessarily work.
- Yes, coordinated with USFWS
- Yes
- We already have state and federal programs to deal with endangered and threatened species. If they are not working, don’t try to fix them as part of nondegradation.
- These questions (#s 7, 8 and 9) all seem closely related. MCEA’s understanding is that MPCA is just beginning to work on development of Tiered Aquatic Life Use (TALU) standards, obviously a separate rulemaking process. TALU standards would provide the metrics (Question 7), assessment of biological impairment (Question 8—presumably these waters would be 303(d) listed), and define high quality, Tier 2 waters for the purposes of anti-deg review (Question 9). Put another way, TALU standards will provide fundamentals for both effective anti-deg and restoration (TMDL) programs, but appear to be on a track several years beyond this current rulemaking.

