

*Nondegradation Stakeholder Meeting Notes  
September 25<sup>th</sup>, 29<sup>th</sup> and 30, 2008  
Compiled Comments*

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

**General Comments**

- 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.
- Limit the number of pollutants for which nondeg applies including baseline dates.
- I like the Minnesota using historical data plus increases in baseline as water quality improves.
- *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
- What about climatic conditions, either prior to some date or permit application?
- if modeling, need to agree on parameters in model

**1. Is the establishment of baseline conditions necessary to implement antidegradation? Why or why not?**

- Not needed, there is no good way to establish the baseline. How many years of data, who collected the data, etc
- Not necessarily. General items like general uses I don't think it is required. For WQ standard or specific chemical parameters like iron or zinc probably. For TSS or turbidity maybe not. I also think if we link non-deg only to use a baseline may not be required.
- Doesn't non-degradation mean – not worse than it is now? Determine a monitoring period to establish “current” levels. That is the baseline to resume non-degradation.
- If “current” level is below standards for the designated use, and it is feasible to achieve water quality standards – then the “baseline” would be re-established after water quality standards are achieved/exceeded.
- Probably not.
- Not necessary if approved BMPs used.
- No, you can assume a baseline modeling will tell if you go up or down.
- Yes I believe so. But we have to look at BMP's that have been implemented.
- Yes, you need a set of conditions from which to measure changes by the proposed activity.
- Yes
- Yes, there needs to be a starting point. It all comes down to the quantity, quality, and duration of water quality monitoring data. For non-deg to be truly effective, the state needs to continue to invest in WQ monitoring. Also, monitoring with continuous data is important, as storm event data only shows a small part of the total picture.
- I think so, otherwise where do you begin. If a water body is classified, baseline conditions are implied.

- Yes, without a baseline you have nothing to compare to, how you develop the baseline important, but the problems inherent with doing so should not be used as a reason to not make the attempt.
- Baseline data is important, if not even for now, at some point in 50 or 100 years someone will want that good accurate data.
- Yes, you have to know what to compare to. How often is the baseline going to be evaluated/monitored.
- Yes, statistical variation must be taken into the account.
- Need time to think. We are befuddled on this w/local involvement and manage w/State role(oversight), using partners
- Yes. It is impossible to determine whether water quality would be lowered by a proposed activity without having a water quality baseline. It is impossible to determine whether a water body is “high quality” subject to Tier 2 protections absent a water quality baseline. It is impossible to establish a cap on cumulative consumption of assimilative capacity without a water quality baseline.
- Yes, if improvements are to be made it needs to be known how good or bad the receiving water has been in the past before increased impacts were made. Also, baseline conditions are very helpful in determining what can be done, how BMPs can be implemented and what range of cost may be necessary to achieve the goals.
- Some sort of baseline condition is needed as a bench mark. It may not be necessary for each water body if reference water bodies can be used effectively instead.

**2. For the protection of high quality waters, Minnesota uses the date (Jan. 1, 1988) on which nondegradation provisions for “All Waters” was adopted into the state’s water quality standards to establish baseline conditions. Is this the best approach to establishing conditions? What approach would you recommend?**

- If we can agree water meets use and the “project” will not affect it maybe we don’t need baseline. I do think we will need to establish or at least acknowledge a reasonable baseline for large point source projects. So if we need a baseline it should be reasonable, i.e., we will likely never have streams which support the reintroduction of grayling.
- No-incorporate new data.
- At what flow conditions and what storm event and for what reach and how far downstream.
- As the height of a drought period, 1988 may not be the best choice. For example, there were severe algal blooms in Lake Pepin and low DO concentration in the lower MN River in summer of 1988. In rivers, the baseline should vary by flow ad parameters.
- I think this is fine, as WQ data is very limited and in consistent in the past before 1988. Hopefully, baseline data becomes more robust over time. Although, with changes in precipitation levels in late decade, we might have to revisit this baseline 10-20 years down the road.
- I like this with the provision that baseline can up as water quality improves.
- Unless a better/easier method can be used, do not change!
- I think that makes sense, 1988 or to the earliest time when accurate data was available.

- It's ok for waters that have adequate monitoring data. For those that don't, use the most appropriate available data.
- I like the way it is worded now.
- Minnesota technically uses January 1, 1988 as its water quality baseline date, but in practice, the current water quality, 1988 water quality baseline, assimilative capacity, or magnitude of WQ lowering have seldom if ever been established through non-degradation review in Minnesota. In very few cases, water quality based effluent limits have been established to prevent *impairment* of the receiving water.

MCEA recommends using the most current available monitoring data to establish the baseline, EXCEPT:

- Where monitoring data exists that shows water quality was better in the past (back to 1988), in which case the higher water quality baseline should apply (unless the lowering of water quality was allowed pursuant to full anti-degradation review in compliance with the requirements of 40 CFR 131.12).
- Where water quality has been allowed to be lowered through a state-permitted activity between 1988 and the current proposal without anti-degradation review, anti-deg review should be conducted.
- While it seems reasonable, it is also arbitrary at the same time. Assumptions are made that conditions were better at that point in time and nothing has been done since then to provide protection or to make improvements. Comparing actual monitoring data from the baseline year and the current year is the best method. In the absence of actual data from the baseline year, analysis of sediment cores from the bottom of the receiving water can fairly accurately reveal if the water had once been of higher quality or has always been a low quality water.
- The 1988 approach is fine (or for ORVWs, the date of their designation). Everything needs a starting point and using the date when the rules were promulgated is reasonable. Trying to go back to days before there were controls is not.

### **3. Considering the challenges in establishing baseline conditions based on actual monitoring data, what are the best options for creating baseline conditions?**

- Monitoring data is the most accurate way, but takes many years to collect and set baseline.
- Setting lakes, wetlands, etc., to an average condition, set river, reservoir to 7Q 10. Really should try to stick to narrative.
- WQ data, modeling, eco region land use.
- Over time.
- If there is a monitoring data-use it (regardless of which agency the data comes from). Monitor and model.
- The best is actual monitoring data where sediment coring is possible in lakes, wetlands, and impoundments, it might provide an option (e.g., Lake Pepin and Lake St. Croix sediment cores). Information on reference waterbodies in the same eco region provides another option.
- State needs to put funding into baseline data collection.
- Modeling, land use, other people's ideas

- Existing industries need to contribute to monitoring.
- Historical water use at time of adoption 1/1/88 is ok as a starting point as long as improvements in water quality result in establishing a higher baseline over time.
  - Use an existing example similar to IBI process, not just monitoring data. Past use before development or @ 1988 can be established qualitatively for qualitative guidelines.
  - Look to land based activities, geologic and ecological conditions, demographics, etc.
  - Use most recent good data.
  - The burden for gathering current baseline water quality information should be placed on the applicant. If the length of time needed to collect meaningful data exceeds 2 years, reference waters should be established in conformity with scientific Agency-produced guidance. Modeling back to 1988 conditions could be used in the situation of #2 above (e.g., stormwater runoff) or where there is reason to believe that water quality was higher at some point between 1988 and the current proposal.
  - see #2. Just because it's a body of water doesn't always mean it must support certain levels of activity. Very shallow basins, excavated wetlands, stormwater ponds are all examples of water bodies that, particularly in an urban environment, people set expectations on simply because they are water bodies and the assumption is that they should support activities or uses. Setting reasonable expectations for these water bodies, including the non-use of that water body is another option.
  - The difficulty of monitoring baseline conditions (typically an agency function) is equal to the difficulty in assessing pollutant impacts (often a permittee function). The technical skill of a permittee may not be of a caliber desired by the agency to produce useful data that links back to the baseline data assessment process. If monitoring creates such large technical and financial hurdles, what other approaches can be used to prevent degradation? How about establishing a suite of "certified" treatment BMPs. No one wants to invest large amounts of money into treatment processes that MPCA would later determine to be unacceptable.

**4. Should baseline conditions be allowed to be adjusted "upward" when there is an improvement in water quality? Why, or why not?**

- If you establish a baseline it should be set unless uses or something major changes they should be left unchanged.
- Yes, if it meets a designated use. If it were to significantly change a use, an evaluation process should take place. (i.e., a new point discharge raises baseline on a low quality water probably shouldn't raise uses).
- Only if it is also possible to adjust "downward".
- Yes
- No
- What would be the incentive to improve water quality if new sets of standards kick in and you're back to square one?
- No. Below is kind of a situation I can imagine, although somewhat different: trout found reproducing in a stream. DNR then classifies as trout stream. Then PCA wants to classify as cold water fishery, but the water temperature doesn't "fit" cold water "standard". Now the water is impaired for temperature.

- Clearly yes. When there are advancements in technology or land-use management, such as advanced secondary wastewater treatments, we should raise the water quality bar.

- There needs to be a procedure for this to determine when the baseline moves upward. Hence, when WQ is consistent X% above Y baseline for Z amount of time, then it can go upward.
- Yes, many water bodies were impaired at the time of adoption of the rules, but we don't want to institutionalize the impairment. All of Mn waterbodies need to move toward improved water quality.
- Yes, because it makes sense and is the right thing to do, with public input?
- Yes, should be pushed upward especially where degradation is severe. But not to the point where no activity is allowed ever.
- Yes, if it is based on good data.
- Yes

-Yes. For Tier I waters, water quality improvements typically will be as a result of TMDL implementation and the expenditure of public funds. Having restored or attained the existing use, it must now be protected. For Tier 2 waters, the assimilative capacity (or increment of water quality doing better than just meeting standards/criteria) is to be protected through anti-deg review. If current water quality is better than at some time in the past, the higher level of water quality is that which cannot be lowered without benefit of proper review. See 1 and 2 above regarding the case where water quality was better in the past.

- No. the original baseline needs to be retained as a measure of what was achieved and what the historical conditions were. It is reasonable to assume that at some future point in time conditions might change and the original baseline may still be the most accurate and feasible measure. On the other hand, there is an assumption that the improved condition be maintained. In that case, the original baseline becomes the benchmark of success and the point at which failure of the implementation would be noted.

-Baseline should not be a moving target! If entities meet the nondeg standards and this does not result in adequate progress, then let the permit requirements and the TMDL process take over.-

**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?**

- It should especially if one considers potential natural declines in baseline due to climate variability, significant return to natural conditions which lower the designated use, etc.
- Yes,
- Yes
- Yes
- Isn't that why you have a TMDL? One maximum load is determined, that would be your baseline.
- No, because then you can just "decline" more.
- Only if past baseline data was found to be corrupt as state **installs** inadequate.
- I wouldn't like this to happen as it could be a race to the bottom for some water bodies.
- Only with a prescribed public input process.
- No, should keep old baseline with that notation of the exception.

- No
- Yes. If full anti-degradation review was conducted (assimilative capacity was determined, the increment of that capacity consumed by the proposal was established, no feasible or prudent alternative to the water quality lowering was available, a finding was made relative to the proposal meeting an important social or economic need, and full public notice and participation opportunities were available)—then the baseline water quality should be lowered.
- Difficult question and arguments could be made for lowering the baseline. However, I think the original baseline should be retained. That at least establishes that the water body is capable of better quality. Situations may change down the road and pressure could be brought or opportunities arise that would warrant better quality and different uses. There should only be rare cases where quality is permitted to be lowered. If the lowering of quality is allowed as a result of development or for commercial/industrial uses then those entities benefiting from the use change should be held responsible for at least maintaining existing conditions.
- Again, baseline should not be a moving target. If the baseline water quality declines despite the nondegradation review and permit compliance process, it is because there are too many land uses that are not subject to the same standards. The majority of Minnesota's land cover (I forget Norm's # - 96%?) is producing pollutants with no permit oversight, nondegradation review, or TMDL compliance requirements. As long as this is allowed, continued degradation is inevitable. Spending limited staff and financial resources tightening the lariat on the animals already contained in the regulatory corral is not going to solve the degradation problem if the animals outside the pen are ignored. Some creative thinking is needed to solve the nondegradation/impaired waters problem that will entail getting non-permitted entities to take at least the same level of action that permitted entities are already taking.
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