February 16, 2009

Comments on NH Draft MS4 permit from Roger Frymire:

I appreciate this opportunity to comment on the NH MS4 draft permit. Although I reside in Massachusetts, I have over ten years' experience in multiple watersheds conducting bacterial water quality monitoring. I have taken over 2000 samples for bacterial analysis concentrating on tracing sewage bacteria back to specific outfalls. My comments are mainly on the monitoring requirements in the draft permit, with the intent of both increasing the focus and usefulness of monitoring and reducing some of the burden on permittees of a comprehensive monitoring program.

WQX

First, I would suggest that the permit be amended to require that permittees place all monitoring data collected into EPA's WQX database - possibly on a yearly basis. This database is being used by a growing number of states and watershed groups as a permanent repository for water quality data. Further, I suggest that EPANE commit to generating a common spreadsheet for use by all MS4 permittees for initial local storage of required monitoring data. This should allow smooth transfer of all MS4 data into WQX in simple batch operations.

I cannot overstate the usefulness of having all this monitoring data available for query in a single online database along with historical and watershed data.

Simplification

While all outfalls need to be GPS located and screened for dry-weather flow, some towns have hundreds of outfalls connected to just one or two catch-basins by a short run of pipe. Country roads can run for miles adjacent to a stream or river, with twenty or more of these tiny drainage systems per mile - almost all bone dry until it rains. Requiring wet-weather sampling of all such outfalls seems an inordinate burden - especially on the less populated towns with more road miles per taxpayer. I suggest removing the wet-weather monitoring requirement for a reasonable majority of such tiny drainage systems. With such a large number of these, at least a few will have dry-weather flow from groundwater and other sources. These few should provide plenty of data

for characterizing the majority. A possible cutoff point could be "Four or fewer catchbasins draining under an acre of impervious area connected to a single outfall under 24" diameter - with no dry weather flow or other indication from screening of additional inputs or problems."

Parameters

pH should be dropped from the list of parameters monitored, especially in wet weather when any pH excursions will be buffered by rainwater flows. The few instances of pollution causing pH problems should be easily found by other indicators and especially visual inspection. Even in dry weather, the time-consuming calibration of pH meters will make the time spent noticeably less productive. Also, glass bulbs of pH probes are notoriously prone to breakage and replacement expense. This is simply a large time-sink and expense for basically NO useful data.

Chlorine tests should only be required in dry weather and only at outfalls with an ODOR of bleach or swimming pools. Simple field tests by paper strips are available, but the human nose is at least equally sensitive, so testing time and expense should only be required if the screening 'sniff test' indicates chlorine. If instead the intention was to require testing for Chlor**ide**, this can best be accomplished by multimeter testing of Conductivity - which is easily converted to ppt salinity.

DO should be monitored along with temperature and conductivity by a field multimeter. Second only to actual bacterial tests, I have found this the most useful parameter in identifying problem outfalls. Besides sewage, low Dissolved Oxygen can be caused by excessive organic material such as leaf litter in catch basins, and may be used to help indicate success of street-cleaning and catch basin maintenance BMPs.

Bacteria sampling is the single most expensive parameter in the monitoring requirements - both because of laboratory expense, and the short sample holding time - restricting sampling trip timing and duration. Even though bacterial data is very useful, any way to reduce this requirement could significantly reduce the burden of monitoring programs. While I would like to see wet-weather bacterial sampling at all outfalls, enough other sewage indicators are being required in the dry-weather screening that it might be significantly more cost-effective to skip dry weather bacterial sampling on the first visit. Then if Odor, low DO, Surfactants, Ammonia, Potassium, Outfall size, or Visual indications (or some metric of all these) point to possible problems, a repeat trip to

sample JUST for bacteria could be made to many such outfalls in a single trip (and short holding time). Some outfalls might not need the expense of bacterial testing at all, and condensing the remainder into the smallest possible number of laboratory trips should also help reduce the total expense of this testing.

Screening

Initial screening and cataloging of all outfalls should include two digital photos of each outfall from the front and back when possible to document structure condition as well erosional and depositional features in line with the outfall. These pictures shopuld be taken after labeling the outfall with a unique ID. Larger (>30")and known problematic outfalls may need a sign nearby with the ID and a phone number for public reporting of 'objectionable' flows. When an outfall is not accessible (underwater, etc.) the last accessible manhole before the outfall should be used as the sampling location. For outfalls where safety is an issue for sampling; especially in wet weather, high water, or winter; an upstream manhole should also be designated and documented.

GPS

GPS positions should be recorded for all outfalls and secondary sampling manholes in decimal degrees to five digits accuracy to the EPA data standard (XX.xxxxx degrees). Handheld GPS units with this accuracy are in widespread use - such as the Garmin 76Cx unit. This is the one datum which will make all other data placed into WQX searchable by location across all variously-sourced data sets.

Receiving Water Monitoring

For all impaired water bodies with discharges from the MS4, two rounds of monitoring each year should be conducted - once each in wet and dry weather. Each impaired segment should be sampled once upstream of all MS4 discharges to the waterbody, and at one site downstream of all discharges. Alternately, sampling may occur at city boundaries and at ends of impaired segments within the MS4. Samples will be analyzed only for constituents listed as contributing to the impairment.

Public Involvement Process

Require all SWMPs and Annual Reports be online. In additional to Public Notice requirements for stormwater meetings, require notification by e-mail to all active watershed associations with concerns in the MS4 of all public meetings and opportunities for public comment.

Again, Thank You for this opportunity to comment. I hope these ideas can also be taken into consideration for other draft MS4 permits coming soon from EPANE. And I hope the changes I suggest are not so large as to require complete re-release of a new draft permit - although I believe the WQX provision would be worth even that additional hassle - for the sheer gain in availability and useability of the monitoring data collected. One last comment - I very much appreciate and approve of the SSO provisions contained in this permit.

Sincerely,
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