

Nutrient TAG Meeting

March 14, 2014

Ohio EPA Groveport Field Office

Attendance

Member/Alternates – Elizabeth Toot-Levy, Dave Ritter (A), Guy Jamesson, Jack Irvin (A), Ron Wyss, Kristen Kubitz, Adam Sackenheim (A), Dale Kocarek (A), Adrienne Nemura, John Meyer, Anthony Sasson, Michael Brom (A), Rob Reash, Tom Menke, Bill Knapke, Jack Irvine

Observers – Bill Hall, Rob Brundrett, Chris Morgan

Via conference phone – Doug McLaughlin

Ohio EPA – Dan Dudley, Bob Miltner, Chris Skalski, Dale White, Gary Stulhfauth, Eric Nygaard, Melinda Harris, Heather Raymond, Cathy Alexander

Handouts – Agenda

Meeting began at 9:45 a.m.

Review of Agenda, Meeting Date and Misc Topics

- Today's Agenda – final, no changes
- Feb 13 minutes – send revisions by next wed, otherwise will consider final.

Ended up moving agenda items around due to technical difficulties

Minimum data requirements & pilot application of TIC sampling

- Rob Reash & Dan Dudley
- Rob discussed his paper on minimum data requirements – **Dan will send out second draft to group.**
- First we need to have good quality data that meets quality assurance/quality control (QA/QC). We want to calculate a Trophic Index Criterion (TIC) score with minimal sources of error – sampling error (sampling equipment itself), sample collection, sample contamination, how agency manages data and interprets the results.
- Rob recommends that the group reads Ohio EPA's Surface and Ground Waters Monitoring Strategy 2011-2015 (available at: http://www.epa.state.oh.us/portals/35/documents/FinalOHStrategy_2011.pdf).
- Rob saw that the Agency has already standardized sampling methods and should go into more detail on sampling training, sampling timeframes, etc.
- Concern over data interpretation – with TIC there is some judgment that has to be made – not a lot of institutional knowledge with the TIC – Rob recommends Agency build strength here. Internal and external training program will be essential.
- Draft about 90% complete.

- Rob did consider the number of samples that need to be collected to calculate the TIC, how much data is enough. He is addressing it from a statistical standpoint but still flushing it out.
- Dan mentioned the Agency's efforts to get SOPs updated and transferred into an electronic format.
- **At end of meeting Dan mentioned the "pilot studies" listed below. TAG members will receive updates and an opportunity to ask questions as the work is planned and conducted. When the study plans are complete, they will be available at: <http://www.epa.state.oh.us/dsw/bioassess/ohstrat.aspx>**
 - Pilot 2014 watershed studies as possible "test drive" for TAG members
 - Urban stream – Rocky River, see if MS4 communities will engage
 - Rural stream - Big Darby Creek, see if farm community will engage

Nutrient threats to Public Water Supplies – WQ criteria & downstream use issues

- Heather Raymond, Division of Drinking and Ground Waters (DDAGW) presentation
 - Presentation available on TAG web page
- Nitrate regulated under SDWA – acute 10 mg/l – DDAGW aims for 100% compliance
- Ammonia in raw water is an issue for water treatment process
- Cyanotoxins biggest issue
- Carbon treatment does not reduce nitrates
- 2 stage ozone treatment can be used to treat for algal toxins – lot of research going on right now with U.S. EPA
- Many public water systems built reservoirs to deal with nitrate issues and now have harmful algal bloom (HAB) issues
- Once the cyanotoxins are present in a system – might be very difficult to get rid of (can remain dormant in sediment until conditions are favorable again)
- 1 ug/l is World Health Organization guideline DDAGW is currently using. U.S. EPA is supposed to be coming out with an updated target this year – Heather expects the value to be less than one.
- Only looking at microcystin in this presentation. Other algal toxins are also being looked at.
- Ohio EPA will likely adopt the U.S. EPA targets into rule, which will streamline issuance of do not drink orders
- Ohio EPA samples if a HAB bloom is discovered unless the water system is already sampling
- Nitrate exceedances above 10 mg/l in watersheds typically happens during high flow
- Public water systems having a harder time filling reservoirs - when stream flows are up, nitrates are way up
- Ohio EPA does the raw water sampling – drinking water systems do not have to sample the raw water – even if they do it is not level 3 so Agency cannot use it in assessments
- How is nitrate expressed? Nitrate-nitrogen
- If source water intake is impaired, Ohio EPA lists the entire 12-digit hydrologic unit (HU) as impaired
- Any thought on recreation impairment for HABs? Other states may have done this.
- Environmental persistence of the microcystins? Literature says weeks but depends on conditions (degrade faster in warmer temps)
- Intercellular toxins and extracellular toxins – measurement of both is protective of human consumption because body will break them down cellular walls, releasing the toxins. Ohio EPA tests for all three.

- Chlorine can deactivate toxins but not at higher pHs – systems might then have disinfection by-product issues
- TIC score not good for representing drinking water impairments for nitrates
- Group should consider public drinking water uses when we look at downstream protections
- In regards to Grand Lake St. Marys, the public drinking water source for the City of Celina, Tom Menke was surprised that wastewater treatment plants (WWTPs) in the watershed are just now monitoring for phosphorus? Tom mentioned that point sources should be doing their part to reduce phosphorus in addition to the agricultural community. Celina is investigating the use of groundwater again and potentially moving the WWTP discharge to the Lake Erie basin
- Discussion regarding whether or not representatives of public water supply systems should be on the group? At least for downstream impacts. Adrienne Nemura and Gary Sheely represents Lima and other small WWTPs so that may be sufficient?
- Guy Jamesson brought up that there are already standards in place for nitrates and maybe that is ok that we do not address these issues in this group.
- Anthony Sasson asked about source water protection plans. Heather said they are not required at this time but several surface water systems developing plans and emergency response – what to do if water is undrinkable. Anthony asked about integrating source water protection plans with Total Maximum Daily Loads (TMDLs).
- Dan asked about next steps, reiterated why group was formed, how do we pair up with TIC rules and downstream water supply protection?
- Maybe someone representing drinking water on the implementation work group would be ok – Gary Sheely has responsibilities in drinking water, may invite another utility representative to be on the group also.
- Agreement that we want to protect downstream public water supply use but this group might not be the one to do it – focused on aquatic life.

Report out from TIC scoring sub-group

- Guy Jamesson –
- There are eight individuals on the group. Have had three meetings, made excellent progress, realize it is complex issue. Looking at TIC and box model and talked about flow chart that might be used – objective all the same.
- One specific item for comment – when looking at a situation when the TIC score indicates the water body is threatened, there is a general feeling in the subgroup that if the biocriteria is in attainment the rules should not require new controls on point sources rather there should be additional sampling and monitoring and maybe a limit on new loading into the watershed through the antidegradation rule? What about how well the biology are attaining – should we look at that? Good to look at off ramps but also need to look at historical trends. Are parameters getting better or worse?
- Group coming along and generally on same page. Dan brought up asking questions of U.S. EPA Region 5 – keep this in mind.

Lunch

Started again at 12:30

Box lunch good idea? Yes

Dan not at next meeting on April 10th. Beth will run the meeting. Rob Reash is going to look into reserving AEP lab space. Stay tuned on location.

Introduction to TMDL implementation

- Dale White, DSW (Presentation posted on TAG web page)
- Review basics of Water Quality modeling and TMDL allocation protocols
- Identify issues for follow up at April meeting
- Phosphorus in substrate – can come from nonpoint and point sources
- Looking into flows the nutrient targets would be applicable at, considering 7Q2 and 80th percentile flows
 - Going to look at more USGS stations, smaller drainage areas and smaller data records
 - Wisconsin adopted 7Q2
 - Florida adopted 90th %
 - 80th % about double 7q2
- Every facility with NPDES must have a Wasteload allocation in a TMDL
- Dale uses SWAT model, which does not take into account interaction with groundwater
- Schedules in permits can be 7 to 17 years depending on what is going on in the watershed
- Permits have to have the final TMDL load allocation in them until the TMDL is redone to either revise or remove that allocation
- Should the implementation phases in permits be laid out in the rule? Answer likely yes
- Affordability and point sources not considered by U.S. EPA or Congress in the Clean Water Act (CWA). Need to discuss this in the group. Eric Nygaard mentioned this is where variances come into play.
- How limits are applied in the NPDES permits – seasonal limits vs. monthly/weekly limits (Only look at most recent TMDLs for options – may not be able to set limits today like in older TMDLs)
- After looking at presentation online, please let Dan Dudley or Dale White know if you have any questions
- What topics in the presentation need additional attention/future agenda time?

Report out on sub-group formation – Groups B & C issues

- Beth Toot-Levy
- Status on formation of TAG/Ohio EPA small groups
- Beth emailed list of subgroups for implementation issues to the TAG. For next meeting, Beth is asking the subgroups to put bullets in to a powerpoint to lead the conversation, which should give the subgroup more to go on to complete a white paper.
- Three small groups to prepare initial report to full group at April meeting:
 - current nutrient limits
 - seasonality of limits (want vs. barriers)
 - interim limits

Wrap up

Meeting adjourned at 2 PM