TETRA TECH

Memo

To:	Josh Griffin (Ohio EPA)
Cc:	Paul Proto (U.S EPA), Melinda Harris (Ohio EPA), Paul Gledhill (Ohio EPA)
From:	Bill Carlson (author), Kevin Kratt (reviewer)
Date:	August 1, 2022 (revised)
Subject:	PMR Public Meeting Notes (Detailed)

This memorandum contains the notes from the three question and answer sessions in the Preliminary Modeling Results (PMR) meeting on July 14, 2022 from 4:00 pm to 6:30 pm at the Community Ballroom at Bowling Green State University.

The panel was composed of six agencies' staff (from left to right): Josh Griffin (Ohio EPA), Paul Gledhill (Ohio EPA), Matt Lane (ODA), Eric Sass (ODNR), Bill Fischbein (Ohio EPA), and Melinda Harris (Ohio EPA). Meg Moosa (Tetra Tech) facilitated, and Bill Carlson (Tetra Tech) recorded notes.

Approximately 40 people sat at the round tables in the ballroom. Agencies' staff sat at the panel table on stage, at a table on stage-left, and at the registration table.

The introductory paragraph for each section provides a summary of the Ohio EPA presentation. Abbreviation and acronyms used throughout the meeting are listed below. Pertinent staff are listed afterwards.

Tetra Tech WTR
1468 West 9th Street, Suite 825, Cleveland, Ohio 44113
Tel +1.216.861.2950 | tetratech.com

Abbreviations and Acronyms

ARS	Agriculture Research Service (U.S. Department of Agriculture)
BMP	best management practice
CAFO[1]	concentrated animal feeding operation
MS4[2]	municipal separate storm sewer system
NPS-IS	Nonpoint Source-Implementation Strategy
ODA	Ohio Department of Agriculture
Ohio EPA	Ohio Environmental Protection Agency
PMR	Preliminary Modeling Results (for the Maumee River Watershed Nutrient TMDL)
Q&A	question and answer
SWAT	Soil and Water Assessment Tool [watershed model]
TMDL	total maximum daily load
USDA	U.S. Department of Agriculture
WLA	wasteload allocation

Agency Staff that Answered Questions

Bill Fischbein	Ohio EPA, Central Office	Panel
Paul Gledhill	Ohio EPA, Central Office	Presenter, Panel
Josh Griffin	Ohio EPA, Central Office	Presenter, Panel
Matt Lane	ODA	Panel
Ashley Ward	Ohio EPA, Northwest District Office	
Dave Werbach	U.S. EPA, Region 5	

[1] Several attendees appeared to use the term "CAFO" for animal operations that may not meet the legal definition of a CAFO. Such attendees may have been referring to any large animal operation.

[2] Several attendees and agency representatives appeared to use the term "MS4" to represent regulated MS4s under a NPDES permit for stormwater discharges.

1.0 Q&A FOLLOING THE SOURCE ASSESSMENT PRESENTATION

Paul Gledhill presented a summary of the source assessment of the PMR document. The presentation included discussion of commercial and manure fertilizer usage, erosion and soil loss, ongoing research. The speech also included discussion of point sources and household sewage treatment systems.

Q&A by questioner is summarized below. Statements are paraphrased and are not verbatim.

1.1 JANEAN WEBER (ENVIRONMENTAL LAW AND POLICY CENTER)

Ms. Weber: Is the fertilizer study conducted by ODA and cited by Ohio EPA in the PMR published online?

Josh Griffin: Did you see the Appendix?

Ms. Weber: The PMR includes lots of discussion of the ODA study. Results are summarized in several figures included Figures 12, 13, and 14. Was the ODA study published separately?

Matt Lane: Data are compiled by ODA's Division of Plant Health. To support this TMDL, the data were compiled by watershed; typically, ODA does not compile and publish these data by watershed. The PMR is the first publication of ODA's analysis.

Ms. Weber: Will the data be provided?

Josh Griffin: The data could be provided.

Ms. Weber: What does that mean?

Paul Gledhill: You can request the data through a formal public comment.

Josh Griffin: We will provided the data when requested.

1.2 MIKE FERNER (LAKE ERIE ADVOCATES)

Mr. Ferner: Will the slides be available online?

Josh Griffin: Yes. The PowerPoint slides will be published online soon. The recording of the presentation will be published online. The recording of the question and answer session might be published online depending on the quality of the audio.

1.3 TOM HARRISON (UNKNOWN), WOMAN (UNKNOWN), AND MIKE FERNER (LAKE ERIE ADVOCATES)

Mr. Harrison: How many edge-of-field studies were conducted? How many of the fields were adjacent to CAFOs? Is the data included in the PMR for transparency?

Josh Griffin: USDA ARS maintains about 30 edge-of-field study sites in Northwest Ohio. At each edge-of-field study sites, two locations are paired. Ohio EPA cites the ARS data and analyses in the PMR but Ohio EPA did not conduct the research.

Mr. Harrison: How many edge-of-field study sites were next to CAFOs?

Josh Griffin: Several edge-of-field study sites have manure application on their fields. Some study sites have elevated soil test phosphorus levels. USDA and their partners conduct the research.

Mr. Harrison: Did you inventory study sites that were adjacent to different sized CAFOs?

Josh Griffin: Study sites with livestock are included in several figures and livestock data from the Census of Agriculture were included in analyses. Ohio EPA does not have the raw data

Mr. Harrison: Are you not privy to that data?

Matt Lane: ODA used two livestock datasets in its analyses: the Census of Agriculture and permits. The Census of Agriculture is conducted every 5 years and includes all sizes of livestock operations. To protect privacy, USDA does not always report its data; USDA does not want its published data to be used to identify specific operations. ODA's permit database includes authorized numbers of animals.

Woman: How many edge-of-field study sites were next to CAFOs?

Paul Gledhill: The studies were conducted by federal agencies, not Ohio EPA. The studies did look at really high soil phosphorus levels and extreme examples are included

Mr. Ferner: Regarding the ODA permits and Census of Agriculture, did ODA's livestock analysis include the so called 'one-unders' that are not permitted because the livestock operation is one animal less than the number of animals at which a permit is required?

Matt Lane: The so-called 'one-unders' are included in the Census of Agriculture. The ODA permits are mostly for chickens because several operations are extremely large.

Mr. Ferner: What is the basis of the Census of Agriculture? What are the data derived from?

Matt Lane: Data are self-reported on a questionnaire, similar to the national population census.

Woman: How are the Census of Agriculture data aggregated? Collected?

Matt Lane: USDA collect the data and then presents the data on a county-scale. For ODA's analysis, the data are prorated by the portion of county land within the Maumee watershed. In the absence of better data, this is the best approach that ODA has.

1.4 SANDY BIHN (LAKE ERIE WATERKEEPERS)

Ms. Bihn: The SWAT models use estimates of fertilizer and manure application. The estimated proportion of commercial versus manure application is always the same in the SWAT models. However, ODA reports that commercial fertilizer use is decreasing, while the number of livestock in the Maumee River watershed is increasing. How can Ohio EPA rely on the SWAT models with static commercial and manure application while commercial application is actually decreasing? Why don't the SWAT modelers change the commercial and manure application numbers?

Josh Griffin: All models have limitations. With SWAT modeling, it is a challenge to vary model inputs over years. If a new SWAT model was developed today, it could be designed differently with more manure application that reflects today.

The SWAT modeling is only one line of evidence in the PMR. Other studies are also used to support TMDL development.

Paul Gledhill: Ohio EPA is not "relying" on the SWAT model. Other published research indicated that there is no significant difference between phosphorus movement between manure application and commercial fertilizer application.

Ms. Bihn: I disagree. When manure is applied, high soil phosphorus levels are found.

With regards to the figures and analysis of livestock over time, how does the PMR account for changes with livestock between the 1950s, 2000s, and today? Today, dairy cows produce twice the milk and twice the manure versus the 1950s.

Matt Lane: ODA agrees that cows of the 1950s are different from cows of the 2020s, with regards to what is going in and what is going out. The objective of the figure of livestock change over time was to show that the year 2002 had the lowest number of livestock in the post-World War II era.

ODA's analysis used the most recent, available manure phosphorus data, and ODA did not rely on old studies. ODA has two manure phosphorus datasets: (1) manure testing from operations covered by permits to operate and (2) operations in the Grand Lake St. Mary's area that is a watershed in distress. The use of these two datasets accounts for more feed and more production of today (versus the past).

Paul Gledhill: These calculations are provided in Appendix 1.

2.0 METHODS AND RESULTS

Josh Griffin presented a summary of the methods and results in the PMR document. The presentation included discussion of the mass balance approach, estimation of baseline loads, and determination of allocations. The speech also included discussion of point sources and the watershed general permit for major dischargers and large minor dischargers.

As the meeting was behind schedule, the Q&A session was cut short with five or six people in the audience with their hands raised to ask questions.

Q&A by questioner is summarized below. Statements are paraphrased and are not verbatim.

2.1 DOUG CLARK (BOWLING GREEN)

Mr. Clark: With regards to the watershed general permit, will trading be allowed between only the same groups (e.g., GP1 with GP1) or between any group (e.g., GP1 and GP3)?

Josh Griffin: Ohio EPA developed the groups as categories for economy of scale for allocation purposes. There will be only one watershed general permit with a total load, and this single load must be met.

Paul Gledhill: The watershed general permit is a work-in-progress for now but all permittees covered by this permit will be able to trade.

2.2 KARI GERWIN (TMACOG)

Ms. Gerwin: What is the rationale for a 20% reduction for the stormwater WLA? Ohio EPA identifies road grit, pet waste, and yard waste as the sources, but these sources cannot contribute that much. How would post-construction BMPs address these source?

Josh Griffin: Stormwater contributions are very small in the Maumee River watershed, unlike in the Olentangy River watershed where Ohio EPA developed a watershed specific stormwater general permit. For the Maumee River watershed, Ohio EPA is not looking for much reduction. Ohio EPA is looking for the MS4s to continue with source control, education, and other projects to continue making progress

Ms. Gerwin: Waterville is the pour-point for the TMDLs; how were WLAs assigned to point sources downstream of Waterville?

Josh Griffin: Phosphorus yields were calculated at Waterville, and then these yields were used to calculate loads for sources downstream of Waterville. Point sources reported effluent data were also used.

2.3 ELIZABETH TOOT-LEVY

Ms. Toot-Levy: Can we submit questions before the public comment period deadline and receive responses before the deadline? I have two pages of questions.

Josh Griffin: Ohio EPA can be contacted via the official TMDL email address or individual staff members can be contacted. The agency can also set up meetings to discuss questions. Commenters can identify their questions as pertaining to future formal public comments so that Ohio EPA knows to respond to those earlier.

2.4 WOMAN

Woman: The PMR needs more maps to help people understand what regions certain parts of the text are referring to. The PMR refers to Waterville a lot but also discusses sources downstream of Waterville. Also, Ohio EPA should consult with communities.

Josh Griffin: The presentations today are high-level. The agency will look into including more local data in the PMR.

3.0 IMPLEMENTATION PLAN

Josh Griffin presented a summary of the implementation framework from the PMR document. He referred attendees to the documentation on Ohio EPA's website for the June 1st webinar. The presentation included discussion of the implementation strategy, state boundary condition, and point sources. The speech also included discussion Ohio's Domestic Action Plan and NPS-IS plans.

The Q&A session ran to 6:30pm, a half hour after the meeting was scheduled to end, with several people indicating that they had more questions to ask but would refrain from asking them today.

Q&A by questioner is summarized below. Statements are paraphrased and are not verbatim.

3.1 JANEAN WEBER (ENVIRONMENTAL LAW AND POLICY CENTER)

Ms. Weber: Will there be new planning on Ohio EPA's part? Or will the agency rely in existing implementation planning?

Josh Griffin: Ohio EPA will rely upon small-scale implementation planning, notably the NPS-IS plan. The watershed has 30-50 NPS-IS plans and many have far-field goals. This TMDL effort may spur additional NPS-IS plan development.

3.2 MIKE FERNER (LAKE ERIE ADVOCATES)

Mr. Ferner: BMPs are misnamed and overrated. Many BMPs increase dissolved reactive phosphorus. Meta-studies show large ranges of phosphorus reduction.

[Mr. Ferner reads the titles and taglines of several studies. He provided a hardcopy to the panel]

Mr. Ferner: What is plan 'B' when the BMPs don't work? Can Ohio EPA reduce the numbers of animals in the watershed?

Josh Griffin: The TMDL is a planning document and Ohio EPA will use adaptive management. Ohio EPA actions are limited to what the Clean Water Act authorizes states to do. Some of these issues are policy decisions, not something a TMDL will address.

3.3 SHERRY FLEMING (WILLIAMS COUNTY ALLIANCE)

Ms. Fleming: To what extent do Ohio's departments work together? A fish hatchery is proposed in the St. Joseph River watershed that will dump nutrients into the St. Joseph River.

Josh Griffin: We do have permit staff in attendance.

Ashley Ward: Any discharge will need to be authorized through an NPDES permit that will set discharge limits.

Ms. Fleming: AquaBounty has violated its NPDES permits for facilities in Indiana.

Ashley Ward: Ohio EPA has compliance and enforcement programs.

3.4 WOMAN

Woman: Is the 442 million kilograms equivalent to 1 million pounds? What is the time period for reduction?

Josh Griffin: Yes. The load reduction must be accomplished every year. Ohio EPA recognizes that there is a lag time between the implementation of a BMP and in-stream reductions.

Woman: If the 1 million pounds per year reduction is not achieved, what happens?

Josh Griffin: Progress must be made. Ohio EPA will leverage new information and use adaptive management.

Woman: What are the teeth with TMDLs for actual change?

Dave Werbach: U.S. EPA Region 5 will review the TMDL and is monitoring its progress. TMDLs are not enforceable, except for the WLAs through NPDES permits. Approval of a TMDL grants no new authority. A TMDL is a planning document; it is not a legal document. The Clean Water Act does not include penalties for TMDLs. TMDLs are used to inform programs, to identify the ways to achieve an endpoint, but have no direct regulatory authority.

Bill Fischbein: State law requires TMDLs in Ohio to include an implementation plan

3.5 MAN

Man: Will there be phases and milestones? When will the TMDL affect NPDES permits?

Josh Griffin: The draft TMDL report will include milestones. Permitting mechanisms will be fleshed out over the next several months.

3.6 KARI GERWIN (TMACOG)

Ms. Gerwin: Is the 0.37 mg/L a permit limit?

Josh Griffin: The 0.37 mg/L is the long-term average that is equivalent to a 0.5 mg/L limit.

Ms. Gerwin: If U.S. EPA is not happy with the watershed general permit, can U.S. EPA force that limit into the individual permits?

Dave Werbach: A TMDL has no timeframe. U.S. EPA can work with states to reopen TMDLs.

Ashley Ward: U.S. EPA Region 5 could intervene with a permit but that is unlikely. U.S. EPA Region 5 would need to approve the watershed general permit.

3.7 LAUREN RUSH (CITY OF PERRYSBURG)

Ms. Rush: How will MS4s be able to tell if they are making progress toward meeting the TMDL? Will Ohio EPA only be monitoring the Maumee River? Will the MS4s need to sample their own outfalls for effectiveness and to show progress?

Josh Griffin: The measures of progress in stormwater permits are typically BMP-based. Ohio EPA is not expecting MS4s to undertake extensive outfall monitoring programs. Ohio EPA often collaborates with researchers and communities for these types of evaluations. For example, Ohio EPA is collaborating with the Ohio State University that is studying stormwater nutrients.