



## Division of Surface Water

### Response to Comments on Draft Rule

**Rule:** OAC 3745-1-21 Great Miami River drainage basin.

#### Agency Contact for this Package

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On September 4, 2013, Ohio EPA made available for review and comment one water quality standards program rule. This document identifies the comments and questions received during the associated comment period, which ended on October 4, 2013.

Ohio EPA reviewed and considered all comments received during the public comment period. By law, Ohio EPA has authority to consider specific issues related to protection of the environment and public health.

The following comments were submitted by the Hamilton County Soil and Water Conservation District (HCSWCD):

**Comment 1:** Through review of the May 2012 “Biological and Water Quality Study of the Lower Great Miami River and Selected Tributaries”, no apparent biological or water chemistry study has been conducted recently for Indian Creek. If site-specific copper toxicity studies were completed, they cannot be easily accessed for review. However, there is a proposal to lower the copper criteria in this watershed. ***Without an evaluation of existing use attainment for Indian Creek or minimally, a water chemistry study, how can OEPA be sure that less stringent copper criteria will not lead to further degradation and/or non-attainment for Indian Creek? If recent copper toxicity studies along Indian Creek exist, please provide to HCSWCD.***

**Response 1:** Butler County conducted a study to develop a site-specific water quality criterion for copper in Indian Creek following approved federal guidance known as the water effect ratio. This procedure employs side-by-side toxicity tests to compare toxicity of a substance, such as copper, using standardized laboratory water and site (receiving stream) water. The comparison of copper toxicity in the receiving stream water versus

laboratory water provides a way to account for the specific chemical characteristics of the receiving stream and its influence on copper toxicity. Based upon a review of the study, Ohio EPA believes that the resulting site-specific criterion is protective of the aquatic life use for Indian Creek. Previous biological surveys of Indian Creek performed in 2005 demonstrated full attainment of the aquatic life habitat use designation.

**Comment 2:** From RM 33.6 to RM 8.20 on the Great Miami River, only 5 of the 10 sample sites meet attainment status – only 50% compared to 92% (23 of 25 sites) meeting attainment above RM 33.6. River mile 33.6 to the mouth of the Ohio River is within our area of surveillance. We noticed that in this section of the watershed roughly 9 tributaries and 5 sub-watersheds have been evaluated by OEPA (Gregory Creek, Coldwater Creek, Dicks Creek, Pleasant Run, Pleasant Run tributary, Paddy’s Run, Taylor Creek, Briarly Creek and Wesselman Creek). Based on the OEPA tributary assessments, HCSWCD has the following observations and questions.

- The assessment of Pleasant Run at RM 3.75 reveals an IBI score of 36 and ICI qualitative ranking of MG. This section of Pleasant Run been designated as meeting WWH attainment status; yet the IBI and ICI values are on the edge of non-attainment. ***Consequently, can OEPA target the Pleasant Run watershed for additional urban storm water control measures in a future TMDL report?***

**Response 2:** Pleasant Run was fully but marginally attaining its aquatic life habitat use at two locations while nonattainment was found at a tributary location due to organic enrichment and urban storm water impacts. The TMDL report will recognize and encourage the implementation of urban storm water control measures within the Pleasant Run watershed. Note that the Agency’s Biological and Water Quality report recognizes the highly developed nature of the Pleasant Run watershed and specifically recommends the retrofitting and modification of existing storm water management to restore a more natural hydrologic regime and treat contaminants associated with storm water before entering the stream network. It is likely that the Agency will revisit some of these sites during our next survey of the lower Great Miami River watershed.

**Comment 3:** There have been significant proposals related to urban stream impacts and filling of waterways in the Gregory Creek watershed. ***Can impacts that have occurred after the 2010 sampling events be taken into consideration in the TMDL and issuance of 404/401 and NPDES permits?***

**Response 3:** Since Gregory Creek fully attained its aquatic life habitat use, a TMDL was not developed. Should Gregory Creek fall into nonattainment based on a future survey, then a TMDL would be developed to address the causes and sources of nonattainment that are identified based upon the survey data. The lower Great Miami River biological and water quality report specifically recommends the use of low impact development designs in the Gregory Creek watershed to mimic predevelopment hydrology and passively treat storm water as a means to maintain the biological condition measured in the 2010 survey which found Gregory Creek to be fully attaining its goal uses. Local storm water controls, best management practices and protective local ordinances would all be means to help achieve this.

**Comment 4:** Hamilton County Soil & Water Conservation District QHEIs conducted in the Taylor Creek watershed in 2012 yielded similar results as OEPA assessments. OEPA scored RM 1.6 (Harrison Ave.) a 60. Just upstream from the OEPA assessment area, and downstream of Briarly Creek, we scored the channel a 66 (just downstream of the channelized reach). Wesselman Creek, upstream of Taylor Rd. bridge (RM 3.0) was scored a 42 by OEPA and we found similar habitat in 2012, with a QHEI of 40.5. **However, although OEPA noted full attainment of WWH use in this section of Wesselman Creek, it should be recorded that in the summer of 2012, a dry channel bed and numerous dead crayfish were observed through this reach. Solutions proposed as a result of OEPAs study should include storm water best management practices that will help maintain baseflow in the Wesselman Creek watershed.**

**Response 4:** The biological and water quality report based on the 2010 lower Great Miami River basin survey is complete and published. It was based upon the observations and data collected as part of the survey and cannot be expected to note observations made afterwards. As noted in the comment, Wesselman Creek fully attained the warmwater habitat biological criteria associated with its aquatic life habitat use designation. While the survey did not explicitly discuss specific storm water BMPs for Wesselman Creek, their implementation within the watershed would have a beneficial impact in helping to maintain the designated use and should be encouraged. Finally, note that the Cincinnati area experienced an extended period of severe to extreme drought during the summer of 2012 that likely played a role in the observations made that summer as indicated in the comment.

**Comment 5:** There are numerous tributaries, potentially contributing to the partial attainment status in sections of the Lower Great Miami River, which were not assessed by OEPA in 2010. Based on our water quality data, **the following tributaries in Hamilton and Butler County should also be considered for further study and/or re-evaluation of permit requirements based on current findings.**

- During 2012, Banklick Creek exhibited the highest median specific conductivity in the Lower Great Miami River watershed south of Hamilton (1114 ug/L median, 26 samples). During this low flow year, total phosphorus, nitrate and e-coli were not excessive in the watershed, suggesting sources other than sewage or septic discharge. **We recommend a biological assessment and evaluation downstream of the Rumpke landfill. Any other discharge sources should also be evaluated, and a plan for reducing watershed pollutants incorporated into the future TMDL report.** At roughly Great Miami River mile 10.8, there is a tributary running along Morgan Rd. that has exhibited high median specific conductivity (1073 ug/L) and nitrate (1.83 mg/L) during 2012 (8 samples). **Along with Banklick Creek, we recommend closer examination of the Morgan Rd. sub-watershed as part of a TMDL modeling approach and study.**

**Response 5:** Sampling for this survey has been completed, but Ohio EPA will consider sampling these streams during the next lower Great Miami basin survey. An examination of operating data from the Rumpke facility noted very few permit violations since 2008. Also, note that conductivity measurements of 2400 micromhos/cm would equate to a dissolved solids concentration of 1500 ug/l at 25 degrees Celsius, which would meet current water quality

targets. Ohio EPA's 2010 biological and water quality survey of the lower Great Miami River found nutrient enrichment as the cause of impairment coming from both point and nonpoint sources from the large upstream watershed, and this is the focus of the TMDL.

**Comment 6:** Although Taylor Creek assessments indicate full attainment, water quality impacts in its sub-watersheds are evident. EPA's data shows that Briarly Creek is in non-attainment of WWH standards. Sources of pollution in Table 1 of the report reveal urban storm water pollutants and storm sewers. Ohio EPA should also note sources of wastewater discharge to Briarly Creek. During low flow sampling in both Briarly Creek, and its tributary Sheed Creek, elevated levels of specific conductivity and total phosphorus are evident. ***Can OEPA list the additional sources of impairment to these watersheds and incorporate sub-watershed sources from both Briarly Creek and Sheed Creek into the TMDL plan?*** Without addressing the sub-watersheds, future WWH attainment of Taylor Creek may be in jeopardy.

**Response 6:** A final biological and water quality report has already been published documenting the findings of Ohio EPA's 2010 survey. Briarly Creek was sampled and both sites were found to be in nonattainment. Successfully addressing the causes and sources identified in the report should bring Briarly Creek back into attainment, as the report identifies the *principal* causes and sources that are believed to be the most influential in the resulting impairment that was identified. Doing so should also have a positive impact on the downstream Taylor Creek as mentioned in the comment. The biological and water quality report lists "Other impacts associated with runoff from impervious surfaces and lawns in urban settings" as the cause of impairment, a specific TMDL will not be developed. However as the sources of impairment are clearly listed as storm water borne, Ohio EPA is indeed putting a special emphasis in this subwatershed. Sheed Creek, draining about 4.8 square miles, was not specifically sampled as part of the 2010 survey. Unfortunately it is not possible to sample every small stream in a watershed. However, many of the TMDL implementation recommendations for Briarly Creek could also be applied to the Sheed Creek watershed as well.

**Comment 7:** HCSWCD has observed excessive nutrient loading coming from the Howard Creek-Dry Fork Whitewater River assessment unit (HUC: 05080003 08 08). Total phosphorus was elevated in Howard Creek, associated with the spring flows of 2010 and 2011. Phosphorus peaks on the Dry Fork Whitewater River at Oxford and West Rd. during spring and fall flows. The relationship between elevated total phosphorus and high flow suggest fertilizer and/or manure runoff as the culprit during these events. Spring *E. coli* counts have been 3,000-5,000 colonies/100 mL in all the aforementioned locations. Nitrate has been elevated within this study unit during 2010-2012 sampling. During the lower flows of 2012, nitrate was exceptionally high at the Race Lane Rd., Oxford Rd. and West Rd. crossings of the Dry Fork as well as Howard Creek and the Miami Whitewater Forest lake outflow. Data charts can be provided to show trends associated with flow events. Ohio EPA conducted sampling along the Dry Fork Whitewater River near Okeana-Drewersburg Rd. in 2005. Sampling in this reach revealed partial attainment of EWH status at that time. ***Local data suggest that alteration of water chemistry in the watershed may be an additional reason for the***

**impairment. Agency actions, permitting and TMDL priorities should consider the 42.6 square mile Howard Creek-Dry Fork Whitewater River as part of a basin-wide approach for water quality improvements in the Lower Great Miami River watershed.** Evidence of the excessive nutrients can be seen through the drastic pH and dissolved oxygen swings as the nutrients are converted to algae.

**Response 7:** The 050800030808 watershed assessment unit was not part of the lower Great Miami River study area. This particular assessment unit is currently scheduled for a basin survey by Ohio EPA in 2016. Ohio EPA will consider the points made when planning for this survey.

**Comment 8:** Ohio EPA appears to have limited data on the Lee Creek-Dry Fork Whitewater River assessment unit (HUC: 05080003 08 09). Local data indicate elevated turbidity, total phosphorus, nitrate and *E. coli* throughout this study unit. Although no causes and sources of impairments are indicated in the most recent OEPA Watershed Assessment Unit Summary, encroachment on tributaries, cropland, stream bank erosion, potential septic system discharge and fertilizer use appear to be causing water quality impacts. ***Like the Howard Creek-Dry Fork Whitewater River, Banklick Creek-Great Miami River, Taylor Creek and other HUC 12 assessment units, HCSWCD recommends that OEPA utilize local data and observations surrounding the 22.7 square mile Lee Creek-Dry Fork Whitewater River assessment unit. This unit should also be considered as part of a basin-wide approach for water quality improvements in the Lower Great Miami River watershed.***

**Response 8:** The 050800030809 watershed assessment unit was not part of the lower Great Miami River study area. This particular assessment unit is currently scheduled for a basin survey by Ohio EPA in 2016. Ohio EPA will consider the points made when planning for this survey.

**Comment 9:** It is our understanding that Midwest Biodiversity Institute (MBI) has been collecting biocriteria data in the Lower Great Miami River watershed. In order to fully assess this biological and water quality study, it would be useful to have all data in hand that Ohio EPA plans to use in future decision making. ***Is OEPA planning on incorporating MBI data into existing biocriteria data? If so, can HCSWCD obtain such data to more fully understand water quality in the Lower Great Miami River watershed?***

**Response 9:** Ohio EPA has not yet received MBI's data, though we understand some work was done in the lower Great Miami River basin in 2013 on behalf of the Cincinnati MSD. Cincinnati MSD publishes the results of the biological and water quality studies on their web page at: [http://msdgc.org/initiatives/water\\_quality/index.html](http://msdgc.org/initiatives/water_quality/index.html). We recommend contacting Cincinnati MSD for the data.

**End of Response to Comments**