Appendix E

Responsiveness Summary to Public Comments

The draft TMDL report was released for 30 days of public comment on October 21, 2002. Responses to written comments from the public submitted during this period are contained here.

Date	Name	Organization
11/20/2002	Tracie Davies	City of Marysville

Comment: **1.** While the report cites the City of Marysville WWTP as the most significant source of impact to chemical water quality and biological performance in Mill Creek, we hope that the OEPA recognizes the fact that we have helped decrease industrial flows by allowing various companies, such as Scotts, to connect to our system.

Response: Ohio EPA understands that Marysville fills the important role of a regional wastewater utility in this area.

Comment: **2.** We are concerned about the recommendation for effluent limits, specifically ammonia levels to be changed to 1.0 mg/l (30 day average) as cited on page 60. While this limit would not be a problem in the summer, we average higher numbers in the winter and it would be difficult to reduce the ammonia.

Response: The ammonia wasteload allocation (WLA) targets the summer period as the critical period for dissolved oxygen depletion. The winter limits for the Marysville WWTP are not expected to change as a result of the TMDL.

Comment: **3.** There does not seem to be specific recommendations regarding land application and manure spills. Will these be specifically addressed in the TMDL report or as part of the watershed action plan?

Response: The TMDL is a process used to restore impaired waters. Prior to the manure spills, the portion of Mill Creek upstream of Marysville was in full attainment of the applicable aquatic life use. The question Ohio EPA attempted to answer involved determining whether or not these spills had caused an impairment that needed to be addressed by the TMDL, or if the impacts associated with the manure spill were temporary. Based on the data collected by Ohio EPA, it was determined that the impact of the spills was temporary, and that recovery was occurring. Therefore the impairment did not need to be addressed in the TMDL, so long as additional spills did not occur. No spills

were documented in 2002, so Ohio EPA expects that the recovery will continue to the full attainment enjoyed by this section of Mill Creek prior to the spills.

Comment: **4.** We have a concern regarding the elimination of the Maple Street low head dam because it is the main intake for the water plant.

Response: In section 6.1.1 mention is made of evaluating the potential to improve instream aeration by removing the dam immediately upstream of the Marysville WWTP outfall. This is not the same dam as the Maple Street dam.

Date	Name	Organization
12/6/2002	Michael Black	The Scotts Company (Scotts)

Comment: **5.** Scotts has an issue with the TMDL Report recommended habitat improvement strategies for Crosses Run and North Branch Crosses Run (Sections 6.1.3 and 6.1.4). Scotts does not believe that a requirement to achieve QHEI values of 60 is authorized by the Clean Water Act or Ohio statutes or regulations, or by the Consent Order agreed to by The Scotts Company.

Response: Ohio Water Quality Standards (WQS), which can be found in OAC Rule 3745-1-07, provide for the attainment of biological criteria in waters of the state. The purpose of the TMDL is to provide for the restoration of waters that are not attaining WQS. Quality of the habitat can be a very important factor in the eventual attainment of biological criteria; the QHEI is a way of measuring the quality of the habitat. In paragraph 38 of the Consent Order between Scotts and the Ohio EPA (see Appendix F), Scotts committed to improving the habitat of Crosses Run. The QHEI targets provide a means for Scotts to gauge the relative effectiveness of the habitat improvements that are undertaken, and the likelihood of their success, thus it is an important tool that can be used as Scotts makes decisions regarding its course of action in its remedial activities. Attainment of a QHEI target in the absence of pollutant loading reductions is not expected to be a successful strategy for restoring attainment in Crosses Run. Ohio EPA does not expect to establish NPDES permit limits for the QHEI for Scotts, yet Ohio EPA has an obligation under the Clean Water Act to establish targets for the restoration of non-attaining uses and the QHEI is one such target.

Comment: **6.** Scotts does not believe that it would be possible to achieve QHEI values of 60 in the Crosses Run sub-watershed solely by reduction of pollutant loading.

Response: Ohio EPA agrees that it would be very difficult to achieve QHEI values of 60 in the Crosses Run sub-watershed solely by reduction in pollutant loads.

Most attributes measured by the QHEI are physical in nature.

Comment: **7.** On page 41, fourth paragraph, the TMDL Report asserts that QHEI can stand as a surrogate to establish a target for the load of the pollutants: "heat, sediment, nitrate and phosphorus". While Scotts does not dispute the relationship between habitat and attainment of biological water quality criteria, it is not technically accurate or feasible to use qualitative measurement of habitat attainment to define a pollutant load.

Response: Ohio EPA did not state that the QHEI was a target load for the pollutants heat, sediment, nitrate and phosphorus. On page 41 of the report, it was stated that the QHEI was a target by which the reduction in the load of these pollutants could be accomplished.

Many of the actions that could be taken to improve QHEI scores will have indirect effects on the levels of the noted pollutants. For example, establishment of a wooded riparian zone would directly effect the QHEI score. It would also have the effect of shading the water, providing for an effective sediment filter, and providing for a nutrient sink, which would reduce the levels of the pollutants heat (through shading), sediment (through filtering), and nutrients (phosphorus and nitrate, through uptake by the vegetation) respectively. Thus, improvements in riparian and instream habitat which are evaluated by the QHEI can result in pollutant reductions. The target for the QHEI provides a means for evaluating the likelihood of success for any activities performed in terms of how likely it is for the aquatic life use to be restored.

Comment: **8.** Many of the attributes of habitat are not related to pollutant loading but are related to changes in land use or landscape which are not within the jurisdiction of the Ohio EPA or the Clean Water Act.

Response: The interaction between pollutant loadings and habitat, and their effect on aquatic life is complex and highly variable. Improvements to habitat in concert with reductions in pollutant loadings increase the likelihood of attainment of aquatic life uses. Many activities that will improve the QHEI score will need to happen by voluntary action of the landowner. By taking action to improve the habitat, the landowner is increasing the chances that pollutant reduction activities will result in aquatic life use attainment. The restoration of attainment of aquatic life uses is clearly within the jurisdiction of Ohio EPA and the Clean Water Act. By evaluating habitat quality and suggesting targets for improving habitat, Ohio EPA is providing for alternative and/or supplemental means to ensure that pollutant loading reductions that are otherwise implemented will result in aquatic life use attainment. However, Ohio EPA will not be mandating land use changes as a means to restoring aquatic life use attainment.

Comment: **9.** The relationship of habitat to nutrient loading is difficult to understand. While habitat certainly affects the assimilative capacity for nutrients, it is not clear that a habitat goal will provide a reasonable or achievable target to regulate load. Ohio EPA references the "Associations Report", which attempts to quantify the relationship of biological criteria attainment to nutrient goals. The Associations Report is used by Ohio EPA as a means to set nutrient targets as surrogate water quality criteria without going through the process of adoption of numeric water quality criteria. In the Mill Creek TMDL Report, the Ohio EPA has used the relationship of habitat to nutrient concentration to justify a 'limit' on habitat (i.e., a QHEI to be achieved). What data exists to demonstrate a causal relationship between habitat to nutrient concentration and between nutrient concentration and biocriteria attainment?

Response: In the Mill Creek TMDL, separate targets are established for the nutrient phosphorus and for habitat using the QHEI. The relationship of habitat to nutrient concentrations is that high quality habitats have higher ability to assimilate nutrients. A relationship has been established between nutrients and aquatic life use attainment as measured by the Index of Biotic Integrity (IBI). Likewise, a relationship has been established between habitat quality (as measured by the QHEI) and aquatic life use attainment as measured by the IBI. While many of the measures that are available to attempt to reduce phosphorus loading may result in improved habitat, Ohio EPA has not attempted to establish limitations for nutrients using habitat. Targets for habitat and for nutrients are established independently.

As stated above, Ohio EPA has not yet adopted numeric criteria for nutrients, therefore, there is room for flexibility in the implementation of these nutrient targets as opposed to those parameters with WQS are required to be met. Note the contrast in the approach to establishing targets for phosphorus in Scotts' storm water versus the approach used for ammonia, which has a promulgated WQS. This additional flexibility will be beneficial in that it will provide room for creativity in the drafting of the NPDES permit that implements the phosphorus targets.

The data used in evaluation of the relationships between nutrients, habitat, and biocriteria attainment are presented in the "Association Between Nutrients, Habitat, and the Aquatic Biota in Ohio Rivers and Streams," (Associations Report), Ohio EPA Technical Bulletin MAS/1999-1-1(Ohio EPA, 1999).

Comment: **10.** The conclusions presented in the Associations Report are largely based upon statistical correlation of data, without a logical explanation of causation.

Response: A discussion of causation is provided at page 6, and pp. 10-17 of the Associations Report.

Comment: **11.** On page 53 there is a discussion the deviation from target values for Blues Creek. No similar discussion of the deviation from target is presented for Crosses Run, but a numeric goal is set for the two branches on page 61 and 62. On page 63, the Ohio EPA suggests habitat improvement for Blues Creek but does not set a numeric goal. Why should a numeric goal be set for Crosses Run, but not for Blues Creek (which has a total drainage area nearly seven times that of Crosses Run)?

Response: The text regarding Blues Creek has been clarified by adding the target value of 60 applicable to the appropriate stretches of the stream.

Comment: **12.** What is the basis of the QHEI goal of 60 for Crosses Run?

Response: The habitat target of a QHEI of 60 is identified on page 26 of the Mill Creek Technical Support Document (TSD; June 30, 1997). The TSD states "QHEI scores from hundreds of segments around the state have indicated that values greater than 60 are *generally* conducive to the existence of warmwater faunas". When QHEI values begin to exceed 60, the likelihood that a warmwater aquatic fauna will be supported is greater than when the scores are less than 60, in the absence of otherwise limiting pollutant loads.

Comment: **13.** Sediment load from the Scotts facility is the only "pollutant" potentially contributed by the facility storm water to the creeks that is directly measured by QHEI scores. Even if the associations asserted by Ohio EPA were correct for nutrient loads there is no part of the QHEI score that will be directly changed by nutrient reduction.

Response: That is correct. Improvement in the QHEI scores is not intended to be a substitute for control of excessive nutrient loads; separate targets for nutrient reduction were established for just this reason. However, improvements in QHEI scores, particularly by improving the riparian corridor, can have the effect of raising the assimilative capacity for nutrients by improving nutrient processing in the stream corridor (See Associations Report). Scotts has committed to conducting certain habitat improvements in the Crosses Run basin providing Ohio EPA with greater flexibility in implementing nutrient reduction targets than would otherwise be available. The QHEI level of 60 provides relative guidance to Scotts in the likelihood that habitat improvements will result in restoration of the aquatic life use in Crosses Run. Scotts' willingness to improve habitat in Crosses Run will be important for ensuring the eventual attainment of aquatic life uses in the stream.

Comment: **14.** The maximum QHEI score improvement that can be gained by reduction of sediment, TSS or silt would be 9 points, assuming that the current scores are negatively influenced by silt and embedding in the stream. The 1995 Mill Creek TSD water quality study does not completely report the details of the

metrics of the Crosses Run QHEI scores but does present a Table 22 which indicates that the stream does not score in the lowest possible category for the three sediment influenced metrics. Hence, the greatest possible improvement to QHEI score to be achieved from control of sediment load would be something less than 9 points, probably around 5 points.

The recommended QHEI requirement of 60 set in the TMDL is unattainable by measures designed to limit loads of pollutants generated by Scotts storm water. Since existing scores for Crosses Run and the North Branch are reported as 30.5, 42.5 and 45 (Appendix A, Table A-1), it will be difficult to improve habitat to achieve the arbitrary limit set by Ohio EPA as a "TMDL".

Response: As part of the TMDL, Ohio EPA is required to identify causes of nonattainment of aquatic life uses, regardless of whether regulatory authority exists to remedy the cause. High nutrient levels have been identified as a cause of impairment. Nutrient targets have been assigned in order to remedy that situation, and will be incorporated into Scotts' NPDES permit. Poor quality habitat is also a contributing cause of impairment. Ohio EPA will not put habitat targets in the NPDES permit, nor does Ohio EPA expect that limiting pollutants in Scotts' permit will necessarily change the habitat. Habitat improvements recommended in the Mill Creek (Scioto) TMDL are improvements that are made voluntarily by the land owner. Scotts has committed in the Consent Order to do habitat improvements. These improvements will be important in the eventual restoration of aquatic life uses in Crosses Run.

Comment: **15.** It is also important to remember that the developers of the QHEI were interested in a relative measure of stream quality not an absolute measure. The choice of the name ***Qualitative*** Habitat Evaluation Index reflects the discussion in the guidance document that this measure of habitat is not a quantitative score or criteria but rather a way of comparing what were formerly even more subjective evaluations of the quality of habitat made by biologists in the field.

Scotts has agreed in the Consent Order to a Plan for habitat restoration. Scotts feels that it is inappropriate and inconsistent with the Consent Order to place an arbitrary numerical limit on this Plan, especially one that will have little impact on the overall quality of the Mill Creek watershed.

Response: Scotts agreed in the Consent Order to do certain habitat improvements in Crosses Run. Scotts did not agree in the Consent Order to meet a QHEI target of 60. Nonetheless, a QHEI score of 60 is a score generally associated with attaining aquatic life uses in the absence of other limiting pollutants. It serves as a relative benchmark to Scotts as to the effectiveness of the habitat improvements that it undertakes. It is possible that aquatic life

use attainment may occur at a QHEI less than 60. This is less likely if there are other stressors present (e.g., nutrients). Ohio EPA disagrees that improving the habitat in Crosses Run will have little impact on the Mill Creek watershed. Improving headwater water quality is often vital to maintaining water quality in downstream reaches.

Comment: **16.** The ammonia water quality criteria (WQC) used in the TMDL Report is not based upon appropriate in-stream water quality values for Crosses Run. Table 9.3 uses a pH of 8.0 and a temperature of 23^{o}C to present average allowable Ammonia WQC of 1.8 mg/l. This is close (still high) to the mean pH for Crosses Run presented in the 1995 Ohio EPA survey of Mill Creek Water Quality. In Appendix C, Sections 3.1 and 3.2, the acute and chronic ammonia WQC shown in Table C5 used in-stream pH of 8.3 and temperature of 22˚C, derived from STORET data for Crosses Run, which produced an average allowable ammonia WQC of 0.6 mg/l which was used in the TMDL waste load allocation calculation. OEPA does not state the time period covered by the STORET data, how it differs from the 1995 Water Quality Study and why it was used in lieu of the 1995 data.

Response: The WQC is based on data collected in the Crosses Run sub-watershed during the 1995 survey. The STORET data for Crosses Run is the same data collected during this 1995 Mill Creek water quality survey. This data is the most current available and in lieu of any new data, will be considered representative of current conditions. The pH, temperature and corresponding WQC values listed in Table 9.3 were incorrect and were not used in the modeling for Crosses Run. This table was corrected to the values in Appendix C, Table C5, which are the correct values.

Comment: **17.** Scotts does not feel that this data [see comment above] is representative of current conditions in the Crosses Run tributary. With the elimination of the sanitary plant discharges as well as the non-contact cooling water discharge Scotts feels they have significantly reduced both in-stream ammonia concentrations and in-stream pH values. Aquatic ammonia toxicity is relatively sensitive to pH, and even slight pH reductions result in significantly higher WQC. For example, lowering the pH from 8.3 to 7.7 reduces the acute (outside mixing zone maximum) ammonia toxicity by a factor of more than 2.7 times. A change in pH of this magnitude should increase the WLA by this same factor.

Because of the magnitude of this difference in ammonia toxicity, it would be incorrect to establish the ammonia TMDL based upon the WQC for outdated and no longer representative in-stream pH values. Scotts feels that a more appropriate range for in stream pH values for Crosses Run, based on current conditions, would be 7.8 – 8.0, not the 8.3 used to set the Ammonia WQC for the waste load allocation calculation.

Response: The pH value used for the TMDL in the North Fork Crosses Run was measured during a 2000 datasonde deployment. STORET data was used for the South Fork (Crosses Run) only. After checking the only other available pH data for the South Fork, which was from a single datasonde deployment measured during a two day period in Sept. 2000, the resulting 75th percentile pH was 8.24. The STORET pH used in the modeling was 8.3. Based on the similarity of these two values and in the absence of other data, we feel the STORET dataset is more appropriate as it represents the 75th percentile of measurement taken over an entire critical summer period, and is supported by the newer datasonde data.

Comment: **18.** Although aquatic ammonia toxicity is less sensitive to temperature, Scotts also questions whether the 1995 data is representative of current in-stream conditions. As mentioned, Scotts has eliminated a non-contact cooling water discharge that should have reduced heat load to Crosses Run. This should result in a slight decrease in toxicity and perhaps a minor increase in the Ammonia WQC.

Response: As stated above, more current data doesn't exist for Crosses Run. The STORET value of 22 degrees C in the Crosses Run mainstem is a very typical 75th percentile summer value for such small streams which are lacking in riparian cover.

Comment: **19.** The TMDL modeling performed by Ohio EPA used the assumption that because historical ammonia values were so high the ammonia concentration could be modeled as a conservative parameter. However, the discharge data used in the report is outdated, and no longer reflects current ammonia concentrations in the storm water from the facility. Also, the addition of the fire/sedimentation pond to the North Branch (850,000 ft^3) which collects approximately 60% of the storm water from the facility will provide some retention time for ammonia decay. Accordingly, Scotts questions the modeling assumption that ammonia is conservative. Ammonia should be modeled with some degree of biological nitrification, which would increase the total allowable loading.

Response: In the absence of data to the contrary, the TMDL assumption that ammonia is a conservative parameter is based on the current toxic effect this pollutant has on the aquatic life within Crosses Run. Little time if any exists under storm conditions for ammonia to breakdown through natural processes to levels not harmful to these organisms. It was therefore assumed that only dilution plays a significant role in reducing ammonia levels in Crosses Run. Further, the total runoff estimated from the TR-55 design storm is approximately 14,348,133 ft^3 at the mouth of Crosses Run. Taking even a quarter this amount to account for the location of the Scotts facility in the watershed, would yield over 3.5 million cubic feet of water (which is over 4

times the amount retained by the aforementioned firepond). This volume accounts for the entire upper watershed not just runoff from the Scotts facility. Ohio EPA agrees that the firepond is helpful; however, given the large amount of runoff which is possible from such rain events, Ohio EPA does not feel the firepond is a significant remediation of the ammonia toxicity problems in Crosses Run.

The firepond mentioned in the comments lacks certain fundamental physical characteristics that would be necessary to provide for effective reduction in ammonia loading. The bacteria that mediate the nitrification process are obligate aerobes. There must be sufficient food and oxygen applied to this system to sustain a significant population of these organisms in order to provide for effective nitrification; a total of 4 pounds of oxygen must be applied for each pound of ammonia removed. The firepond lacks an ability to deliver the amount of oxygen necessary to sustain an active treatment system.

Comment: **20.** Scotts has an issue with the information used for development of the total phosphorus (TP) Load, as presented in Section 4.4.2.2 (page 51) of the report. First, Scotts believes that the "Associations Report" does not adequately demonstrate a causal link between in-stream phosphorus concentrations and biocriteria non-attainment. There are numerous examples from readily available Ohio EPA data that demonstrate instances of attainment with relatively high in-stream TP concentrations, as well as reversed instances with low in-stream concentrations and non-attainment.

Response: Although phosphorus is a pollutant, it is not a toxic pollutant; therefore a strict response between the stressor and the exposed population of organisms is not expected. Biological systems are seldom that precise. There are several co-factors to be considered when evaluating biological response to phosphorus loadings, for example, the capability that the existing instream habitat affords a given stream to process nutrients. It is to be expected that there will be certain extreme cases where nonattainment does, or does not occur, where you would otherwise expect it, because these are the outliers in the distribution of data. The absence of outliers in a distribution of biological data would be more disturbing than their presence; their presence merely shows that there is not an inherent bias to the sampling technique, and that the sampling will provide good results of the observed condition. Thus the fact that outliers exist is not a good argument for abandoning the central tendency of the data.

Comment: **21.** Second, the method of setting NPS and natural load concentrations is inappropriate. The TP target value for NPS and natural background was set equal to an "empirical value, which represents the unimpacted stream data collected in the Scioto River Watershed". Scotts agrees that since the

principal TP source is wet-weather runoff an approach other than use of typical summer flow conditions is appropriate. However, during wet weather runoff the major fraction of soluble P (as well as a significant fraction of particulate P) is flushed along with the flow and does not remain within the watershed. The calculation of a cumulative allowable load by the product of unimpacted stream TP concentration and cumulative watershed flow significantly overprotects the watershed. Much higher loads of phosphorus could be released with no degradation of the watershed. The additional cost to implement and achieve such an overly conservative LA will provide no additional environmental benefit.

Response: Background data upstream of the Scotts facility does not exist for the non-point source and natural load allocation. It is required by OAC Rule 3745-2-05 (3)(c) of Ohio EPA to use empirical values if necessary to represent the existing conditions upstream of a discharger when ambient data isn't available. The data used for the Scotts allocation represents the best available information at the time and given the lack of any other upstream values, is considered representative in this instance.

Though Scotts contends that in theory, much of soluble and particulate phosphorus could remain in suspension during high flow rain events, the results of our sampling of TP within Crosses Run suggest a significant portion of this nutrient does in fact remain within the watershed and continues to cause adverse effects on dissolved oxygen levels though excessive algal growth. It was determined that the source of this elevated TP was contaminated runoff from the Scotts facility. If Scotts could produce ambient data to support their claim that this pollutant does not remain within the watershed, Ohio EPA will re-evaluate the load allocations.

Comment: **22.** On page 39, Table 9.1, footnote 2, the report states the total phosphorus target ***"is a guideline to meet biocriteria, not an absolute reference"***. Based on this assertion, the TMDL should not establish a numeric TP load, but should only establish a guideline or target for implementation. Subsequent monitoring would be used to determine whether the biocriteria are being attained and whether the guideline is being achieved. Since this is a guideline and not a numeric limit, it should be implemented by establishment of required actions or practices and not by establishment of a numeric discharge limitation.

Response: Ohio EPA modeling staff exhibited considerable creativity in the establishment of appropriate loading values for phosphorus in Crosses Run. Based on the expectation that some habitat improvement will occur, and the factors mentioned in the comment, Ohio EPA staff devised a total loading value for the summertime period. This is in contrast to the daily maximum and 30 day average values for other pollutants that are derived as a result of

strict application of the Ohio WQS. Ohio EPA feels that a numeric discharge limitation is appropriate in this case given that there is elevated phosphorus in the storm water discharges. The implementation of this limit in the NPDES permit will consider many of the interim steps mentioned above. If these actions or practices are effective, then achieving the limitation should not be problematic.

Comment: **23.** Ohio EPA asserts that a margin of safety, as required by the Clean Water Act, has been incorporated implicitly into the Mill Creek watershed TMDLs. Scotts believes that multiple margins of safety have been incorporated into some of these TMDLs, resulting in overly stringent requirements for implementation.

As stated in Section 4.3.1, Ohio's approach to 303(d) listing based upon biological criteria results in a more complete assessment of impairment than use of chemical criteria alone. Perhaps more significantly, use of biocriteria for direct measurement of aquatic life uses attainment results in a high level of assurance that de-listing will not occur unless completely appropriate. This provides an implicit margin of safety.

Use of unimpacted reference site data sets phosphorus nutrient targets "well below those needed to meet biological WQS" (Section 4.3.2). As noted in Scotts discussion of phosphorus loads, there is much available data to demonstrate that biocriteria can be attained at TP concentrations substantially above the unimpacted reference site values. As also stated in Section 4.3.2, 95th percentile values could be used and would be protective of aquatic life use. Instead, Ohio EPA used median values (which are significantly lower than 95th percentile values) to establish targets.

In Section 4.3.3.2, the report describes development of flows and storm events for determination of TMDLs for Crosses Run. A low frequency of occurrence design storm was selected for the Crosses Run sub-watershed. The TR-55 model over-estimated the runoff, relative to actual observed storms. Also, the runoff volume estimated from the 2.6" TR-55 event was then simply multiplied by 1.26 to account for the average summer rainfall of 3.29"/month. The actual volume of runoff from a series of smaller rain events totaling up to the 3.29" monthly average most likely would be smaller. These provide additional implicit margins of safety in the TMDL development.

All of these procedures incorporate implicit margins of safety, which effectively multiply the margins of safety from each of the other conservative assumptions used. Scotts requests the TMDLs be recalculated to remove some portion of this excessive margin of safety.

Response: Ohio EPA has incorporated an implicit margin of safety into the TMDL in lieu

of allocating a portion of the available load to a margin of safety. The margin of safety used in the Mill Creek (Scioto) TMDL is that necessary to develop an approvable TMDL, and is consistent with other TMDLs developed in the State of Ohio.

Comment: **24.** In the TMDL implementation recommendations, Sections 6.1.3 and 6.1.4, the report proposes that the NPDES Permit be reissued for Scotts "*with permit limits for storm water consistent with the load reduction targets outlined in Chapter 4*". However, the TMDL report does not present specific proposed discharge limitations or monitoring requirements. If the initial draft permit conditions are derived from this draft TMDL report as it presently exists, then Scotts suspects some of the proposed permit conditions would be inappropriate, not properly derived from available data, and incorrect. Scotts reserves the right to comment and object to any future proposed NPDES Permit conditions and requirements.

Response: Ohio EPA believes that the storm water load reductions developed in this TMDL are appropriate and properly derived, and correct. Implementation of these limits into an NPDES permit will require close coordination between Ohio EPA and Scotts in order to ensure appropriate application of the loading reductions to the current situation at the Scotts facility. A schedule of compliance will be necessary to provide Scotts with appropriate time to implement any actions necessary to achieve the target loads. The TMDL does not effect legal rights that Scotts has under Ohio law with regard to the issuance of an NPDES permit.

Comment: **25.** Page 6 – "Scotts" should be "The Scotts Company" then use Scotts in the remainder of the document. "Scotts Lawn Co." used on page 14 should be replaced with "Scotts".

Response: The document has been revised as requested.

Comment: **26.** Page 19, Table 3 – In the Description of the stream characteristics of Crosses Run the stream length is listed as 1.9 miles. Elsewhere in the report, a sampling site described as upstream of Scotts is listed at RM 2.8. Is 1.9 correct?

Response: In the "Gazetteer of Ohio Streams" page 71, Crosses Run is listed as being 1.9 miles long. This publication apparently measures Crosses Run only to the confluence of the North Branch. However, measurements taken from the USGS topographic map (Marysville quadrangle) indicates the total distance from the mouth of Crosses Run to the approximate end of its upper reach (where it becomes intermittent) to be about 3.8 miles in length.

Comment: **27.** Page 23, Paragraph 4 – Suggest starting the sentence containing

"Chemical and biological"… with the word "Past" and ending the sentence containing …"pesticides and organic compounds" with "in the past".

Response: Ohio EPA recognizes that Scotts has made significant improvements in eliminating several sources that were previously attributed to exceedences of water quality criteria and biological impairment such as the wastewater treatment plants and corrective remedies at landfills 1 and 3. However, until such time that additional sources such as storm water runoff from the active manufacturing facility, field broadcast areas and the uncapped (unclosed) landfills are addressed, it would be premature to suggest that water quality criteria exceedences or degraded biological communities are a thing of the past. The most recent chemical data available, which was provided by Scotts through the characterization of the storm water discharges in November 1998 and August 1999, revealed highly elevated levels of nutrients and pesticides.

Comment: **28.** Page 25, Table 6 – River Miles are missing for The Scotts Company.

Response: The river miles associated with Scotts NPDES permitted outfalls have been added to the report.

Comment: **29.** Page 30, Paragraph 2 – Can OEPA document for Scotts how their influence "may extend downstream into Mill Creek". Also, OEPA refers to August 1999 sampling data, where was this data from and is it available for review?

Response: Ohio EPA sampling has documented consistent declines in Mill Creek biological communities or non attainment immediately downstream from Crosses Run since 1978 (see TMDL Appendix A). For example:

1995: Full attainment upstream (RM 12.1), Partial downstream Crosses Run (RM 11.7/.6).
1990: Partial attainment upstream, Non attainment downstream Crosses Run.
1986: Non attainment upstream, Non attainment (poor fish IBI) downstream Crosses Run.
1978: Non attainment upstream, Non attainment downstream Crosses Run.

In 1995, the lowest Mill Creek IBI score by sampling pass was found immediately downstream from Crosses Run (IBI = 28 at RM 11.6; n=36 passes). Fish pass scores from this reach were highly variable, suggesting periodic stresses from Crosses Run (Ohio EPA 1996). Chlordane levels above FDA action limits were found in fish tissue immediately downstream from Crosses Run (Ohio EPA 1996). Scotts was also associated with a major fish kill in 1986 that extended over fourteen miles downstream into the Scioto River. These were some of the data considered as justification for the

statement that impacts from Scotts "may extend downstream into Mill Creek".

Regarding the 1999 sampling data, this refers to Scotts storm water sampling results in the NPDES permit application. Samples were collected on August 24, 1999.

Comment: **30.** Page 34, Table 8 – What is the significance of the (-/H) after Ammonia listed under Causes of Impairment?

Response: (- /H) refers to the listing of Ammonia during the two assessment cycles. Ammonia was not listed in the 1998 303(d) (based on 1990 field data) but was considered a High magnitude cause of impairment following the 1995 survey. Hence, the "- / H" notation means "1998 303(d) - no listing /1995 survey - High magnitude". (See also, Table 8, footnote # 1, page 37).

Comment: **31.** Page 38, Paragraph 3 – OEPA mentions "Data collected subsequent to that used for the 1998 listing" – What is the subsequent data, where was it published, is it available for review?

Response: The data used for the 1998 303(d) listing for Mill Creek was the 1990 survey data. The 1995 data is the data that is referred to as that "collected subsequent to that used for the 1988 listing". These data are discussed in Chapter 2 of the TMDL report. The data was published in the 1996 Biological and Water Quality Study of Mill Creek (Scioto River Basin) and selected tributaries (MAS/1996-12-11), and is available on Ohio EPA's web site at: http://www.epa.state.oh.us/dsw/document_index/psdindx.html

Comment: **32.** Page 40, Table 9.3 – This table does not indicate the source and dates of the reported data. (Tables 9, 9.1 and 9.2 indicate there data was from the 1995 survey.) Why is the ammonia data reported as mean values, while dissolved oxygen and phosphorus in Tables 9 and 9.1 are reported as median values? Should ammonia data be presented as median values?

Response: Table 9.3 now indicates the source and dates of the reported data as well as listing the median values where appropriate. Note that the instream NH_3-N values listed in Table 9.3 are for reference information and were not used for the Crosses Run load allocations.

Comment: **33.** Footnote 2 noted in Table 9.3 is not explained below the table. Table 9.3 uses pH of 8.0 and temperature of 23˚C to present ammonia WQC. Appendix C, Table C-5 uses different pH and temperature values. (See discussion above under "Ammonia WLA" comments.) Why are different pH and temperatures used to determine WQC?

Response: As noted in Comment 16, the footnote, pH and temp values were

typographical errors that have since been corrected.

Comment: **34.** Page 40, Section 3.3 – The implication is that "nutrient and pesticide loading from the Scotts operation" is a current condition. We feel that this is incorrect and does not reflect on the improvements we've made to site operations since 1995.

Response: The most recent characterization of discharges from the Scotts facility was submitted in the NPDES storm water permit application. The data, which was collected in November 1998 and August 1999, showed ammonia and 2,4-D concentrations as high as 304 mg/l, and 1300 ug/l, respectively. These sources represent significant nutrient and pesticide loadings to Crosses Run and the North Branch of Crosses Run. To our knowledge, Scotts has not made significant modifications to their storm water best management practices since this data was collected.

Comment: **35.** Page 41, Paragraph 2 – The OEPA seems to state that the success of their approach for this TMDL will be determined by the attainment of the biocriteria. Is this a policy statement or interpretation of the law? What is the OEPA's basis and support for making this statement?

Response: The biocriteria are codified at OAC Rule 3745-1-07 and are an integral part of Ohio WQS. A fundamental goal of the TMDL process is to achieve WQS in waters that are not attaining those standards. Failure to attain the biocriteria means that WQS have not been attained as is required by rule.

Comment: **36.** Page 44, Paragraph 2 – Replace the word "usually" with "has the potential to" in the sentence beginning with "In the case of Scotts"… Again Scotts does not feel the word "usually" reflects the improvements made in operations and Best Management Practices at the site.

Response: The requested change was made.

Comment: **37.** Page 46, Paragraph 1 – The occurrence of the defined storm event is mentioned as being less than 1% of the time. Is this consistent with the statement on Page 50, Section 4.3.3.2 where 5% is mentioned?

Response: The 5% is a typographical error. The correct value remains at less than 1%. The report has been corrected.

Comment: **38.** Page 59, Paragraph 2 – Same comments as above in Page 40, Section 3.3.

Response: Please see responses made to previous comments. The most recent storm water sampling data submitted by Scotts suggests that storm water runoff

from the facility is a source of significant nutrient and pesticide loadings to Crosses Run and the North Fork Crosses Run.