



Environmental
Protection Agency

Division of Surface Water

Summary of Comments

December 2011

Rule: OAC 3745-1-56 (Mitigation for impacts to streams authorized under state water quality permits)

Agency Contact for this Package

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Ohio EPA made available for review and comment the draft new stream mitigation rule OAC 3745-1-56 in December 2010. This document identifies the comments and questions received on the draft rule.

In an effort to help you review this document, the comments and questions are grouped by topic and organized in a consistent format. The name of the commenter follows the comment in parentheses.

Ohio EPA reviewed all comments received pertaining to the draft stream mitigation rule and associated protocol titled “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0).” We have determined that additional consideration of stream mitigation requirements is warranted. At this time, Ohio EPA is not proceeding with this rulemaking in conjunction with the water quality standards triennial review (includes antidegradation) and 401 water quality certification program rulemakings. The Agency will consider the information, comments and questions provided in these comments in any future rulemaking on this subject.

General Comments

Rule Title

Comment 1: Based on the definition of “stream” provided in the “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)” (CMRSISOv5), and the definition’s lack of inclusion of “flood prone area”, this new rule should be titled, “Mitigation for impact to streams and adjacent upland areas authorized under state water quality permits.” (ODOT)

Stream Mitigation Approach

Comment 2: The Service commends Ohio for continuing to be a leader in the development of consistent, predictable methods for assessment and protection of aquatic resources. The Service supports Ohio’s efforts to develop uniform protocols for stream mitigation, and believes the current process of case-by-case evaluation of mitigation can be greatly improved by an effective stream mitigation rule. We generally support many of the concepts in the draft rule and associated document, “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)” (Mitigation Document). These important concepts include scaling mitigation requirements to tiered aquatic life uses and an emphasis on appropriate stream morphology (especially adequate flood prone area). However, we disagree with some aspects of the rule and Mitigation Document, and believe that these issues will result in a failure to attain the goal of stream mitigation projects, as stated in the Mitigation Document: “Mitigation projects are required in order to ensure that there is no net loss of existing stream uses, water quality functions of the stream, or overall integrity of the aquatic resource.” Our concerns with the proposed rule and Mitigation Document are detailed below. (U.S. FWS)

Comment 3: Out of the gate on stream mitigation rules, OEPA should shoot for going from 0 to 45mph, not 0 to impossible. We recommend a simpler stepwise approach to stream mitigation be pursued instead of going from no stream mitigation rules to a complex set of experimental requirements. A more conservative approach would be to establish simple linear ratio requirements based on stream type and if necessary mitigation class. Then progressively over time introduce the comprehensive criteria and elements. (ODOT)

Comment 4: As an initial matter, OHBA is concerned that the rules, particularly the stream mitigation requirements, are highly technical and would require OHBA and other affected entities to hire highly qualified (and expensive) outside consulting experts to help prepare meaningful comments. For example, the stream mitigation rule incorporates by reference an eighty (80) page technical guidance plus additional spreadsheets. OHBA

questions the technical underpinnings of both the rule and the incorporated guidance. However, as our members struggle to survive the extended economic downturn, we simply cannot afford the substantial expense of this technical assistance. Moreover, we question whether a rule this complicated meets the goals of the “Common Sense Initiative.” (OHBA)

Comment 5: I’m really surprised at the statements made and type of mitigation allowed without antideg review for Class II PHWH streams. There is no habitat criteria for the mitigation and woody veg is not even required. The new drafts also make it easier to impact/mitigate Class III streams (like the one we avoided for the proposed Muskingum landfill). From my review – it would seem that we could lose a lot of our amphibians with this new rule, (Christina Svoboda, American Electric Power)

Comment 6: As a citizen of the State of Ohio, who prizes the streams and rivers we enjoy here, I wish to protest your proposal that seems mostly geared to be more advantageous to businesses than to the environment, and most especially to the habitat in Ohio’s streams and rivers.

Home builders and other industry groups do not need your protection and assistance.

It is my belief that the EPA should be on the opposite side of the tug of war between what is good for the environment and what is good for industry.

The proposed changes would make it easier for streams, rivers and ditches to be polluted and to be filled. With no regard for the wildlife, fish and insects that live in our streams.

I realize you are an appointee of the new Governor. He is not an expert on streams and rivers. Listen to the Nature Conservancy. That is a worldwide organization with enormous expertise and science behind it.

In addition, as a citizen of this State, who has been here most of my life, my opinion and wishes should count for more than the Governor’s wish to please corporations. I really don’t care if new home prices will be more if the rules that have been in place for years will finally be followed. It makes no sense to destroy what is beautiful in nature in order to put more dollars in a corporation’s bank account! Or for that matter, to build new homes when the occupants, when the rest of the region, can smell the stink of the chemicals and dead fish! (Gail Horvath)

Comment 7: Part I: 3745-1-56 Stream Mitigation Rules Package and Support Documentation
In general, this rules package is not in any shape or form ready to be published. It lacks consistency and clarity aside from the fact that much of the science presented in the support documents do not apply to streams

with slopes $\leq 2\%$ or greater. Below are specific comments to portions of the rules which clearly demonstrate this rule packages' inadequacies. Also provided below is an exercise using the Stream Mitigation Guidelines which accentuate the deficiencies of the methods as they are presented. (Kleski Environmental Consulting)

Comment 8: The OEC generally supports the new stream mitigation protocol (Draft "Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio," Revision 5.0) and its sound grounding in science. While the document has received mixed reviews from the regulated community, we feel it is a fair and positive step in the right direction towards addressing poor performing mitigation projects. The OEC emphasizes the importance in holding a developer accountable for any destruction of Ohio waters occurring during their development by implementing a mitigation performance standard that addresses the values and ecological functions of the original water quality.

The goal of mitigation is to ensure no net loss of an existing use, the water quality function or the overall integrity of the aquatic resource. Therefore, mitigation must be conducted within the watershed and prior to or concurrent with the destruction of the watercourse. In many instances, mitigation is most effective if it is conducted on-site due to the importance of each wetland's role in maintaining the integrity of the entire watershed, especially the protection of downstream uses. The OEC strongly urges the OEPA to require all mitigation to be conducted within the watershed and within the 14 digit HUC. The applicant must then be required to demonstrate why mitigation outside the HUC-14 is appropriate. Such demonstration must include evidence that there are no technically and/or economically justifiable methods of constructing the mitigation within the sub-watershed. Further, demonstration of technical and economic barriers to commencing construction of the compensatory mitigation, concurrent with or prior to the destructive, activity should also be required. (Ohio Environmental Council)

Comment 9: Preservation of streams and their riparian areas should be given greater value in the rules. (ODOT)

Comment 10: Some flexibility is apparently built into the new rules, for example the form and or function only requirements for category 1 and 2 streams. Also, the foundation of a tiered antidegradation review is also included in this rule, again providing for flexibility and potential streamlining of the surface water permitting process. ODOT appreciates these improvements. (ODOT)

Comment 11: As participants in the stakeholder workgroups previously referenced, OHBA does not believe the draft water quality rules achieve a crucial goal set out throughout the entire workgroup process: a more predictable permit review process. Hours and hours were spent by the members of the workgroups

discussing areas of improvement, agreed to by OEPA, such as timeliness and the need for more predictability. Unfortunately, as OEPA presented the new rule package during its May 2-3 "workshops", numerous questions went unanswered, only to be put in the 'parking lot' to be addressed later. Given so many case-by-case examples and unanswered questions related to the basic application of the draft rules, OBBA urges the agency to work toward a more objective, uniform permit process. (OHBA)

Comment 12: The Ohio Environmental Protection Agency has proposed flowcharts outlining design requirements respective to watercourses and respective watershed areas. Our primary concern is the mandating of the 2-stage over wide ditches or one side drainage design. We are not opposed to the consideration of 2-stage over wide ditches or one side drainage design. However, by mandating this design would place State and Local governments in a position of liability, as these types of designs are unproven, theoretical approaches. As these designs become more understood and proven through State funded pilot projects, this would be the point for these designs to become more commonplace. Other concerns we have are the following:

1. The rigidity of these flowcharts and the point of inclusion to the proposed Standards Package must be better defined.
2. ORC 6131 projects are initiated by landowners who are experiencing conditions jeopardizing public health, safety and/or welfare and are landowner funded projects. The funding sources for these projects rest on the budgets of the landowners many of whom may not be generating an economic derived commodity from their property and/or may not have the ability to finance more costly mandated projects.
3. The designs outlines and required within the flowcharts have been unproven within the State of Ohio and exhibit the potential for failure requiring additional expenditures by the landowners to redesign a solution.
4. The proposed two-stage over-wide ditches would require the taking of additional valuable farmland out of production, when a more traditional design would not.
5. It is our observation that design options should be based upon the criteria generated from stakeholder meetings and outlined within Table #2 (Page 10) of "Rural Drainage Systems" (January 2008 ODNR Rural Drainage Advisory Committee) criteria. Furthermore, these designs are based upon technical criteria, social considerations and economic benefit. (Delaware Soil and Water Conservation District)

Comment 13: The OPEA's has proposed flowcharts outlining design requirements respective to watercourse size and respective watershed area. We have concern in the mandating of 2-stage over wide ditches or one sided drainage design. By mandating these designs, state and local governments would be put in a position of liability because these designs have not been

proven and are only theoretical approaches. As these designs become more understood and proven, we believe they would become more common place. In Seneca County, all ditches placed on ditch maintenance are currently design based on NRCS or ODOT standards and specifications. To date, there are no set standards for these proposed mandated designs.

ORC 6131 specifically states "the construction of the improvement will be conducive to the public welfare and that the cost of the proposed improvement will be less than the benefits conferred by its construction." Requiring such mandated designs will cause the costs to exceed the benefits. The majority of 1515, 6131, or 6133 projects are funded by the landowners within the watershed. Many of which have no revenue generated of the land they own in the watershed and have limited budgets but have found the necessity to be involved in the drainage project as a result of concern for their general welfare. The following are how these costs would exceed the benefits:

1. Without proven designs, we run the risk of financing a project with greater potential of failing and therefore requiring additional expenditures to redesign a solution.
2. These designs require the taking of additional farmland out of production, when a more traditional design would not. The payment required to purchase this land would cause the cost to far exceed the benefits.

Design options should be based upon criteria generated from stakeholder meetings and outlined within Table 2 of the Rural Drainage Systems criteria. This is a guideline produced as a result of the efforts ODNR Rural Drainage Advisory Committee. These designs are based on technical criteria, social considerations and economic benefits. (Seneca SWCD)

Comment 14: The proposed regulation with the inclusion of "Revision 5.0" in lieu of "Revision 4.0" must be viewed with great suspicion. In order for Revision 4.0, which included a 6 factor - input, 12 factor (with variable weighing strength) mitigation system, patterned after the Savannah District, USACE methodology, and developed and defended by OEPA for in excess of 5 years (including 2 years of Public, Interested Party Review (IPR) Workshop meetings), to be abandoned without explanation for the Revision 5.0 document, which is an arbitrary tier system, is incredulous.

In the Preface of Revision 5.0, OEPA states "the principle outcome of these meetings (IPR) was the conclusion that stream mitigation requirements should be constructed to reflect the tiered aquatic life and other beneficial uses of streams in Ohio". I sat in and actively participated in the two years of IPR meetings. I am completely perplexed at this statement. As I recall the discussions, the conclusion that should have been drawn was that the

Revision 4.0 Methodology was sound but minor adjustments to the weighing strength of some of the "debit" and "credit" factors may be warranted. At no time during these Public meetings was there significant comments or conversation directed at the Agency to abandon this tried and true system for a start-over arbitrary tiered system. What changed? The participants involved in the development of OEPA's Revision 5.0 differ from those involved in the earlier version with the addition of 3 non-governmental (OEPA/ODNR) people (see 5.0 Acknowledgements). Based on their affiliations, these people appear to have some ties (if not close ties) with Urban Water Shed issues. I don't know if others with potentially opposing views were invited to participate in the formation of these proposed regulations, or not. If so who were they and why did they decline to attend? Was the Chamber invited? With the abandonment without explanation of previously proposed credible regulations, in the absence of a balanced input session, and with what appears to be an out-going administration's attempt to adopt these arguably biased and partisan regulations, I am highly suspect of impropriety.

Conditions imposed on the property owner to comply with these proposed regulations (Revision 5.0) may be considered an "exaction" if the required mitigation that is not proportionate (or show rough proportionality) to the development impacts. With respect to Revision 4.0, OEPA went to great efforts to develop an enumeration system presumably for the very purpose of demonstrating mitigation was to be proportionate to impact. Under Revision 4.0, OEPA documents that they fully addressed remoteness and proportionality in the nature and extent of conditions to be imposed for a development's impacts and mitigation. Thus these conditions would be tied to the specific permit requirement and definitively shown to be not arbitrary. On the other hand, the proposed rules with the reference to Revision 5.0 are highly arbitrary. For instance they simply require a 3.0 : 1.0 mitigation ratio for Category 4 streams. The absence of objectivity in the proposed regulations is in stark contrast to the inherent objectivity of Revision 4.0. The abandonment of a system which would demonstrate that "rough proportionality" was met in favor of an arbitrary tiered system presumably opens OEPA up to legal challenges. This "public desire" of addressing infrastructure deficiency (storm water retention) at the expense of the property rights of the owner is at a minimum wrong and probably unconstitutional.

Revision 5.0 appears to have been designed to meet a "technically defensible methodology" standard. But, I argue that science does not support this technical approach. It is agenda driven - increase Storm Water Retention in the Urban watersheds, and severely penalize mitigation anywhere else.

Technical Issue 1: the proposed regulations tie ALL mitigation to their newly devised "flood prone" matrix approach. They define this flood

prone area as that area that will be flooded when the flood water rises to a multiple of 2 x of the maximum bank flow. They attribute this value to Rosgen, a true authority on streams. But this value is a selective reading of Rosgen, Rosgen states that there are 7 types of streams, flood ratios vary for 1.3 to 2.7, and only one of the streams has this 2 x ratio, but for general purposes a ratio of 2 x can be used. OEPA takes this generalized average and builds a complicated and onerous methodology upon it.

Technical Issue 2: the vast majority of streams that required permits and mitigation in years past would fall into the lower two categories under these proposed regulations. However so long as mitigation provided additional flood storage, mitigation would not be required to provide the most critical component in the assurance of biological success (per OEPA & ODNR)- suitable substrate to support biology.

Technical Issue 3: in those the lower 2 stream categories as stated above, since things like suitable substrate are not required, OEP A does not require biological monitoring- the type of monitoring that Ohio uses to demonstrate attainability.

The State/OEPA has other avenues to address what appear to be Urban Watershed Storm Water run-off concerns by encouraging or even requiring Special Fees to be imposed if warranted. Therefore, if a development is already susceptible to taxation to meet this end, it should not/can not be susceptible to losses of valuable property (through this thinly veiled approach) to accommodate these same infrastructure deficiencies.

As proposed in Revision 5.0 regulations, the mitigation approach for the largest group of streams (Class I & II PHWH, Modified PHWW (regardless of class), MWH, and most LRW- a total of 67% of all permits) may be found to be a breach in OEPA's duty to protect stream water quality if biological losses occur as the result of insufficient mitigation. There are two points of concern here. The first, does the required design of the mitigation (Category 1 & 2 streams) adequately compensate for loss due to an impact? And the second, would OEPA have any way of knowing if the required mitigation actually compensated for biologically loss of the impact?

Under Revision 5.0 mitigation for Category 1 & 2 streams is acceptable as long as Flood Storage is added in spite of the fact that the mitigation does not need to incorporate those conditions to be lost by an impact. For instance, there is no requirement for the mitigation to provide substrate suitable for the lost biology or to plant a forested riparian buffer to minimize rises in water temperature.

Under Revision 5.0, for Class I & II PHWH, Modified PHWW (regardless of class), MWH, and most LRW streams, OEPA does not measure the

mitigation effort in the same manner as the impact. For that matter, for the majority of these mitigations, there is no biological required measuring (monitoring) at all. With the absence of this monitoring, it is difficult for me to comprehend how OEP A could meet its requirements related to State Water Quality Certifications under Section 401 of the Clean Water Act. Nor can I comprehend how the absence of this monitoring does not amount to a direct conflict with USACE Section 404 requirements for meeting "ecological performance standards" and "monitoring requirements".

These proposed regulations with emphasis and priority given to Permittee-Responsible mitigation projects in lieu of Mitigation Banks is in direct opposition to Federal Regulation (33 CFR Parts 325 & 332) & (40 CFR Part 230). Commentary in the development of these Federal Regulations along with specific language in the text of the Regulations addressed why typical Permittee-Responsible mitigation projects failed in the past, and how they are likely to fail going forward. As stated in the Federal Regulations, mitigation banks provide safe-guards which involve mitigation on larger, more ecologically valuable parcels, and more rigorous scientific and technical analysis, planning and implementation than permittee-responsible projects. The Federal Regulations call for the Regulator (district engineer) to give preference to Mitigation Banks. The regulations go on to say, where appropriate, this preference may be overridden where a permittee-responsible project will restore an "outstanding resource" based on rigorous scientific and technical analysis. It defies explanation how OEPA, in these proposed regulations, can equate allowing for 67% of historic permit application to meet this condition with the mere construction of a stream channel that has some specified "flood prone area" dimensions.

In multiple ways, the proposed regulations are in direct conflict with the Federal Regulations. In my comparison of the Proposed Regulations to the Federal Regulations, I see conflict in the following parts:

- 230.93 (a)(3)
- 230.93 (b)(2)
- 230.93 (b)(4)
- 230.93 (b)(5)
- 230.93 (c)(1)
- 230.93 (t)
- 230.94 (c)(9)
- 230.94 (c)(10)
- 230.95 (b)
- 230.93 (t)(2)
- 230.98 (d)(6)(ii)(A)

In summary, these proposed regulations appear to be highly agenda driven. They reward those concerned with flood control efforts, potentially in un-constitutional ways. For the vast majority of potential permits, the

regulations dismiss the need for rigorous scientific and technical development of mitigation design along with minimal controls to assure that what mitigation is performed will be successful. OEPA's minimal engagement on the "vast majority of the streams" appears to be leveled only by imposing extremely onerous conditions on the higher category streams. The regulations for mitigation for these higher category streams are extremely complex and are rife with the need for future adjustments to the amount of credits earned by an approved mitigation effort. This imposes economic uncertainty in the mind of any developer, thereby inhibiting economic opportunities. (River Oaks Group, LLC)

Comment 15: Riparian Buffers. EPA Comment – To be consistent with the 2008 Mitigation Rule, EPA recommends buffers, when required, be granted some credit. Functioning riparian buffers are an important part of a stream system. EPA believes it is acceptable to grant some credit for riparian buffers as part of a mitigation plan if it is tied to the functionality of the stream (i.e., the stream has access to the buffer and planting plans are incorporated). Specifically the 2008 Mitigation Rule (40 C.F.R. 203.93(i)) states that “if buffers are required by the district engineer as part of the compensatory mitigation project the compensatory mitigation credit will be provided for those buffers.” (U.S. EPA, Region 5)

Comment 16: The Stream Mitigation Rule ("Mitigation Rule") proposed by Ohio EPA creates a new standard specifying the amount of stream mitigation required when impacts occur to streams authorized only by a State WQC. In fact, Ohio EPA greatly expands its regulatory reach to any stream in Ohio. The Mitigation Rule greatly decreases the ability of a permit applicant - who is often more familiar with site-specific conditions - to propose appropriate mitigation. In a guidance document issued in conjunction with the Mitigation Rule, Ohio EPA contends that the purpose of the Mitigation Rule is "to be consistent with the Federal mitigation regulatory framework and to amplify the ecological and water quality goals they are premised upon." See Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0) ("Guidance"). However, Ohio EPA admits that the Mitigation Rule does not match Federal law, and, in fact, the Mitigation Rule increases the burden of mitigation required above and beyond that required by Federal law. The Trade Association Coalition opposes the Mitigation Rule for several reasons which are articulated in detail in the following paragraphs. (Trade Association Coalition)

Consistency with Federal Regulations

Comment 17: Finally, the stream mitigation rule package creates a new standard specifying the amount of stream mitigation required when impacts occur to streams authorized only by a state water quality program. In these rules, Ohio EPA is greatly expanding its regulatory reach to any stream in the state. The stream mitigation rule greatly decreases the ability of a permit

applicant to propose appropriate mitigation. In a guidance document issued in conjunction with the rule, Ohio EPA indicated the purpose of the rule is "to be consistent with the federal mitigation regulatory framework and to amplify the ecological and water quality goals they are premised upon." However, Ohio EPA admits that the rule does not match federal law and would actually increase the burden of mitigation required above and beyond that required by federal law. (Ohio Chamber of Commerce)

Comment 18: Unnecessarily Expand Application Above Federal Requirements -- The rule package establishes requirements which dramatically exceed federal requirements, these include:

- establishing a new category of "state waters" which are not regulated under the Section 404 permitting program.
- requiring detailed "use attainability" analysis both upstream and downstream of potential impacts.
- establishing highly technical standards and data gathering requirements which preclude anyone but a stream expert to evaluate and apply.
- using novel and untested habitat evaluation and mitigation analyses and formulas which, to our knowledge, have not been used in a regulatory context and are not peer reviewed.

We strongly encourage Ohio EPA management to carefully review Ohio EPAs stream mitigation guidance (February 2010) which functions as part of the rule. It is an academic exercise, not a regulatory tool. (OHBA)

Impacts on Projects

Comment 19: Ohio EPA – What would one expect them to say? Of course homebuilders object to cost of restoration/replacement of streams, wetlands, etc. they damage or fill. However, I believe the state and federal regulations requiring ideal restoration should be strictly enforced.

In spite of the fact that Ohio needs the jobs and income they provide, builders, mining companies, etc. must be forced to plan costs of these regulations into every project. The natural areas of our state are a necessary resource and must be protected for the benefit of all. (Susan Ulrich)

Comment 20: OHBA has been involved for over 20 years in working with the Ohio EPA and other interested parties to improve Ohio's burdensome and unpredictable Section 401 Certification process. In fact, we worked closely with Ohio EPA to develop the isolated wetland permitting legislation, a program which generally functions more effectively than Ohio EPA Section 401 Certification program. It does not appear the draft water quality rule package will improve the Ohio EPA's review process. Instead, the process

will become more subjective, lengthy, costly and require the collection of significant amounts of highly technical data before and after the permit is issued. As the requirements have become more and more burdensome, OHBA continues to be concerned about how the associated delays, expense and uncertainties will impact the housing construction industry – particularly in these difficult economic times for applicants. Moreover, OHBA is concerned with the proposed rule packages, as they will place additional burdens on the regulated community in Ohio that go well above and beyond both surrounding states and federally mandated programs.

The Ohio EPA plays a crucial role administering permits that industry is required to obtain prior to constructing new development projects, including the subject draft rules. Many provisions to new rule package were not considered with committed stakeholder groups. In fact, additions have been included which were not discussed with the committed group of stakeholders offering their time and energy to make a good faith effort to provide valuable expertise and input into the permit review process.
(OHBA)

Comment 21: The new rules and accompanying requirements appear well suited for large site development. However they are a poor fit for linear transportation projects. Because of the linear nature of ODOT projects, we do not have the luxury to modify a project to avoid a stream or to only develop in certain areas of a site, as is the case with polygon “big box” developments. Rather, ODOT must cross the stream to carry or maintain a roadway. This type of crossing is typically at distinct crossings at very relatively short lengths and duration. These new stream mitigation rules, while perhaps very applicable to polygon type development projects for new homes and businesses, present an incredibly complex and burdensome challenge for ODOT, based on how we impact these resources. For example, over the course of a several mile roadway improvement project, we may cross numerous individual streams, again for only a short duration. The new rules would require a tremendous amount of modeling both to assess impacts and to determine mitigation for each of these short impacts. Mitigation would almost certainly be forced entirely offsite to accommodate all of the new requirements within these rules. No longer would there be motivation to maintain open channels in some cases, and the incentive to retain some stream function on site would also be removed. (ODOT)

Comment 22: Even if ODOT is able to span the OHWM and provide a bankfull stream crossing, the new rules appear to still require mitigation for floodprone area, therefore eliminating incentive to install bankfull culverts. (ODOT)

Comment 23: All stream mitigation actions by ODOT, not within ODOT right of way, must be conducted with willing sellers. Given the development typically adjacent to roadways, gaining additional right of way (for on site mitigation) next to a

roadway through willing seller purchase is often not available or very limited. (ODOT)

Comment 24: The requirements to include large swaths of floodprone area for mitigation will routinely force ODOT stream mitigation away from the impact area and be carried out offsite. Limited incentive is given to retain the function and values, even if in a modified or less than optimal condition, of streams onsite. (ODOT)

Comment 25: Cost Impacts of Regulatory Program - The information proposed to be required by OEPA is extensive, and in many cases, unnecessary. In discussions with consultants, it appears preparation of the applications will increase in costs given the scientific, technical nature of the review process. This will be in addition to the costs associated with compliance. Clearly, the costs of additional regulatory burdens are reflected in the cost of housing and have an especially harsh impact given the current state of the housing economy. The OHBA is very concerned that the financial impact of the proposed rule package will be significant. Further, we are not aware of any evaluation by OEPA of the substantial fiscal impact of the proposed rules on the business community, particularly on the real estate development industry throughout the state. A thorough and concise evaluation of the costs is required by state law. (OHBA)

Comment 26: Goal of Efficient, Predictable & Timely Permit Processing - OEPA's Division of Surface Water is responsible for most environmental permits affecting land development activities. The single biggest complaint expressed by development interests is the absolute lack of predictability, efficiency and timeliness in the processing of these Section 401 Certifications. The permit processing time is too long, often time taking 8-12 months to process a single permit, whereas other states like Indiana turnaround the same permits in 3-4 months. These permit delays cost industry time, money, and ultimately jobs because construction projects simply cannot begin without these permits.

Moreover, the permit review process is usually duplicative of the very same review carried out by the US Army Corps of Engineers under the federal Section 404 permitting program. The draft rules include several proposed changes to bring Ohio EPA above what the Corps and US EPA require. More specifically, the Section 401 program should only regulate streams that are jurisdictional at the federal level. Jurisdictional determinations made by the Corps should be final. In addition, the term "stream" needs to be more adequately defined, and should be consistent with the definition used by the Army Corps. The draft rules, as written, result in a significantly broader application and establishes a separate category of "State Waters" which can be nothing but a rut or a drainage ditch. Ohio EPA indicates that they will "call them as they see them." Hardly a comforting thought to those looking for predictability. (OHBA)

Comment 27: In its informational symposium May 2-3, 2011, OEPA continuously stated its intentions to apply various permit conditions on a case by case basis. OHBA questions how this will aid in making the process less subjective and more predictable in nature. (OHBA)

Mitigation Categories

Comment 28: The OEC encourages the use of a UAA by a Tier 3 QDC to determine the existing use of a stream when determining a stream mitigation category as part of every application.

All efforts to protect the primary headwater habitat waters under the WQS rule may be in vain if the proposed stream categories are maintained. For example, Class II primary headwater habitat, modified warm water and acid mine drainage impacted limited resource waters are currently mitigation category 2. While Class II PHWH streams do not necessarily have the capability of supporting the same biology as other higher classifications (i.e. warm water habitat), these streams do have important habitat functions for benthic macroinvertebrates, amphibians and some fish. Other streams in Mitigation Category 2, because of historic modifications, cannot support even a limited balance of aquatic life. We are concerned that utilizing the same processes that allow for lower mitigation requirements for these streams could render the mitigated Class II PHWH stream a lesser quality than if the stream would have been previously and permitted to reach its biological potential. Thus, we urge the Agency to reclassify Class II PHWH streams to Mitigation Category 3, where habitat function is maintained, enhanced or restored.

Further, the OEC urges the Agency to re-classify Class III PHWH streams to Category 4 to mimic the mitigation requirements of high quality larger streams. As defined, Class III PHWH streams at times act much like larger high quality streams and rivers, especially in regard to habitat and biological diversity. Thus, Class III PHWH streams deserve the same compensatory mitigation as its fellow high quality waters. (Ohio Environmental Council)

Comment 29: General - Can you more clearly define the differences between stream mitigation categories? Categories 1 and 2 have the same mitigation ratio requirements but different definitions/requirements, and are listed as separate categories throughout the draft rule. Category 3 and 4 streams have different mitigation ratio requirements and different definitions/requirements, but are listed together throughout much of the draft rule document. (NEORS)

Flood Prone Area

Comment 30: The accounting of stream impacts (debits) and mitigation (credits) as measured by acre of flood prone area and acre of habitat area affected or restored/enhanced/preserved appears to go beyond OEPA legal authority under the Clean Water Act. For all four stream mitigation categories, mitigation of impacts to the “adjusted flood prone area” requires mitigation for impacts to upland areas well outside the traditional limit of Section 401 authority, the ordinary high water mark. The rule and subsequent guidance requires intense upfront data gathering to account for impacts (debits). Further, to provide appropriate mitigation, assessment of potential mitigation sites will also require a tremendous amount of data gathering and speculative modeling of stream improvement activities that may or may not create the required amount of mitigation (credits) on land that may not be available for purchase from willing sellers. (ODOT)

Comment 31: The support for these new rules comes in part from the recent Fay and Mecklenberg (2010) study of stream mitigation projects from across the state. This study found that the five ODOT sites were failures on floodprone area or soils or both, however all five were in full attainment of their aquatic life use designations and met or exceeded their habitat and biological criteria as supported by biological sampling. This would indicate that both floodprone area and floodplain soils are not essential to establishing good water quality in streams. It should be noted that at the time these projects were constructed, floodplain soils and floodprone area were not required or considered important for successful stream mitigation. Additionally, all of the mitigation plans for these sites were presented and approved by OEPA at the time of permitting. (ODOT)

Comment 32: Proposed Expansion of Jurisdiction over Ohio Waters
Ohio EPA's proposed Mitigation Rule incorporates the Guidance's requirements for calculation of mitigation impacts and mitigation requirements. In doing so, the Guidance departs from any recognized definition of stream in calculating the required mitigation for a stream.

First, the Guidance makes clear that:

Preservation of the channel alone will not be accepted without inclusion of the protection of an appropriate adjacent riparian buffer as necessary to ensure protection of the stream. This shall include, at a minimum, the entire flood prone area that is included in the credit calculations for the adjusted flood prone area metric. Guidance at 20.

The Guidance then identifies certain minimum buffer requirements. Guidance at 62. Reference to Table 17 of the Guidance establishes that, even in the case of small rivulets which are to be preserved as part of a mitigation plan, Ohio EPA will require a minimum of 25 feet of preserved

buffer area on each side of the stream, with 50 feet proposed as the target buffer area on each side of a small stream or rivulet. In the case of a larger stream or creek, Ohio EPA will require as much as 150 feet of "buffer" (i.e. half the length of a football field) on each side of a stream or creek as part of a preservation plan in a mitigation proposal, even where an applicant did not propose to disturb that much area on either side of an impacted stream.

Second, the Guidance makes clear that mitigation requirements are to be determined by calculation of the "flood prone area" rather than the length of the watercourse being impacted by the proposed construction. The "flood prone area" is defined by the Guidance to be:

... the area (in units of acres) contiguous to a stream channel or flow path that lies at or below the flood prone elevation, adjusted for soil properties and elevation in accordance with the procedures given in Section 4 or this document.

The calculation of flood prone area does not depend upon the length of stream impacted, but rather must be determined under the Guidance's requirements only by conducting a complex set of calculations using such data as soils classifications, water elevation in the stream and permeability data. The amount of information required and the level of detailed calculations required will dramatically increase the costs of preparing any application for mitigation of a stream disturbance in Ohio.

Third, the Mitigation Rule seeks to impose prohibitions upon disturbances not only of streams, but also of large areas contiguous to the stream itself. In fact, the Mitigation Rule, and more specifically Ohio EPA's Guidance document would impose large "no build" zones throughout Ohio, even on the smallest streams and rivulets in the State. There is nothing in R.C. Chapter 6111 which suggests that the General Assembly ever intended to give Ohio EPA such authority nor does Ohio EPA propose to limit this authority where such "no build zones" would effectively cancel underlying mineral interests on a property which are only accessible by disturbing a small surface stream, rivulet or drainage way. (Trade Association Coalition)

Relationship With Other Permits

Comment 33: The proposed stream mitigation rules do not address how they relate to existing watershed-specific stormwater permits. Will mitigation be required under both 401 and NPDES for projects located in these specific watersheds? Will the proposed 401 stream mitigation requirements of floodprone area development increase the impacts under the Big Darby and Olentangy Watershed specific stormwater permits? (ODOT)

Rule References

Comment 34: Reference in this rule to CMRSISOv5 should include a statement indicating that additional revisions of this document would become authoritative over the older 5.0 version if and when subsequent additions are released. For example, this is already in version 5.0 suggesting that past versions needed corrections and most likely this version will also require minor or major revisions. This would allow new revisions/versions to be used without a rule making. (ODOT)

Comment 35: Incorporation of Guidance by Reference

The Mitigation Rule proposed by Ohio EPA incorporates, in its entirety, the Guidance. This Guidance document is not an independent government publication, a peer-reviewed scientific document that has "stood the test of time" or a reference document from third-party source which is widely accepted in the scientific and regulatory community. The Guidance has no independent status, but rather, by its terms " ... provides the mechanism for implementation of the stream mitigation rule O.A.C. 3745-1-56." In short, this Guidance was written by an Ohio EPA employee with the intent of imposing the requirements of the Mitigation Rule, but without setting forth the actual requirements in the rule itself. By incorporating this document by reference into the requirements of the Mitigation Rule, Ohio EPA seeks to avoid subjecting the details of the Guidance to review by the public or the Joint Committee on Agency Rule Review. This kind of use of a guidance document is nothing more than a transparent attempt to pull off an end run of Ohio EPA's rulemaking obligations under R.C. Chapters 119 and 6111. The Guidance seeks to expand the Ohio EPA's jurisdiction beyond the area characterized as "waters of the state" of Ohio, and imposes new, more burdensome and expensive regulatory burdens for any project involving a disturbance to any stream or drainage way in Ohio. Ohio EPA cannot incorporate the Guidance into State law without the benefit of a public process. As such, the Guidance should not be referenced in regulation without subjecting the Guidance to a full rulemaking process. (Trade Association Coalition)

Relationship to Other Rules

Comment 36: New Definition of Native Cold Water Fauna

The Mitigation Rule can only be understood by also reviewing several fundamental changes which Ohio EPA proposes to make with respect to the existing water quality standards in O.A.C. 3745-1-01 et. seq. Most important among the proposed changes are Ohio EPA's proposed expansion of the existing term "coldwater habitat". Coldwater habitat has been defined for decades to mean waters which either: (a) support trout stocking and management under the auspices of the Ohio Department of Natural Resources or (b) those waters "capable of supporting populations of native coldwater fish and associated vertebrate and invertebrate

organisms and plants on an annual basis." (Emphasis added). See existing O.A.C. 3745-1-07(B)(1)(f)(a) and (ii). Thus, the current definition of coldwater habitat requires the presence of native coldwater fish in order for such a designation to be met. This makes sense because, as a general rule, coldwater habitat streams are high quality streams by virtue of the presence of such fish as trout and therefore deserving of enhanced protection.

However, Ohio EPA's proposed WQ Rules seek to redefine coldwater habitats by introducing a new classification of water body - "native cold water fauna streams" which would replace the current definition of coldwater habitat in O.A.C. 3745-1-07(B)(1)(f)(i) and (ii). Under Ohio EPA's new definition, a stream may be reclassified as a "native cold water fauna stream" if a stream with a drainage area greater than 1 square mile is found to have "organisms from four taxa of cold water macroinvertebrates." See Proposed O.A.C. 3745-1-07(F)(4)(b)(ii). Additionally, under Ohio EPA's Comprehensive Water Rules, a small rivulet with a drainage area less than one mile may also be categorized as a "native cold water fauna stream" if either one reproducing population of coldwater vertebrate (a term which is undefined in the proposed rules, but referenced in Table 7-2 of the proposed rules) or "four taxa of coldwater macroinvertebrates" are found.

Translated to plain English, Ohio EPA's proposed rule change means that a stream may be redesignated as a cold water stream if either a coldwater vertebrate, presumably a salamander or similar animal, is found in the stream or four types of insects such as those listed on Table 7-2 of the proposed O.A.C. 3745-1-07 can be found during a stream survey. Table 7-2 lists 69 different species of flies (macroinvertebrates) which are proposed to be coldwater fauna. Thus, all that is needed to convert a small stream or rivulet on private property into a "Mitigation Category 4 Stream" is the presence, at any time, of 4 flies listed on Table 7-2 in the vicinity of the stream in question. More significantly, Ohio EPA's proposed rule eliminates the need for the any coldwater fish to be present before elevating a stream to coldwater status. Instead, a stream may be classified as a coldwater habitat if one species of salamander can be found or four species of flies. Such application has the practical effect of dramatically increasing the likelihood that streams which are so small that no fish would ever be found will now be re-classified into highly protected coldwater habitats where no disturbances are allowed.

Ohio EPA's proposed re-definition of coldwater habitat streams is not mandated by any Federal law, rule or other overriding directive from U.S. EPA nor does Ohio EPA offer a clear and convincing rationale for such a dramatic expansion of the definition of a coldwater habitat at this time. It is unclear why, in these difficult economic times, such a dramatic change is being made to a regulatory definition of coldwater habitat which

has been used for decades in Ohio without any objection from the regulated community.

This proposed definition change produces dramatic impacts when the proposed accompanying Guidance is applied to coldwater native fauna streams, as re-defined in Ohio EPA's proposed rules. The Guidance places cold water native fauna streams in Mitigation Category 4. This category requires the use of a 3: 1 mitigation ratio, which requires the creation of new stream mitigation three times that which would be disturbed. Guidance at 7. Moreover, the Guidance makes clear that, in the case of the need to relocate a small rivulet which is characterized as a coldwater native fauna stream under Ohio EPA's proposed rules:

Stream relocation involving Mitigation Category 4 streams is considered to be a severe impact with respect to the existing use of a stream. Avoidance of these types of impacts is highly recommended. Guidance at 17 (emphasis added).

If one applies this Guidance in the case of a coldwater native fauna stream, spring or seep in areas of Eastern Ohio where surface mining is conducted, or where support facilities (such as impoundments) are needed to support underground mining, Ohio EPA's proposed rules would virtually prohibit new mining operations, and effectively limit the potential for future coal mining in Ohio. It is clear that Ohio EPA's proposed rule changes will impose a new and, in many cases, an insurmountable hurdle to economic development in Ohio involving construction in the vicinity of a small stream, spring, seep or rivulet which is reclassified as a "native cold water fauna" stream. In any case where any permanent relocation is proposed for a portion of a small stream or rivulet on private property throughout this State, and where that small stream or rivulet can be reclassified as a native cold water fauna stream, the impact will be to block economic development under Ohio EPA's rules and Guidance. As such, the Trade Association Coalition does not support the definition change proposed. (Trade Association Coalition)

Comment 37: Primary Headwater Habitat Mitigation Requirements

Ohio EPA's Comprehensive Water Rules, including its Mitigation Rule, continues an Ohio EPA staff push for the creation of a new classification of small streams in Ohio-primary headwater habitat streams. Specifically, Ohio EPA's proposed WQ Rules propose to create a category of "primary headwater habitat" for all "small springs, seeps and streams" that contribute "either perennial or seasonal flow to downstream channel segments." See Proposed O.A.C. 3745-1-07(F)(9)(a). As Ohio EPA notes in its proposed rule, "[v]ery often these water bodies are too small to appear on maps of 1 :24,000 scale." Id. Nevertheless, Ohio EPA proposes a sweeping new requirement for "mitigation" of any disturbances to these tiny springs, seeps and streams. The Trade Association Coalition objects

both to Ohio EPA's intent to create the primary headwater habitat stream classification and to the specific mitigation requirements proposed.

Ohio EPA proposes mitigation requirements for Class I primary headwater habitats, notwithstanding that Ohio EPA describes these small seeps, springs and streams as having "little or no aquatic life potential, except seasonally when flowing water is present for short time periods following precipitation or snow melt." See Proposed O.A.C. 3745-1-07(F)(9)(d)(i)(a). Nevertheless, Ohio EPA insists that mitigation be provided for any disturbances to these areas, at a minimum ratio of 1:1, and only after undergoing the new, more expensive mitigation analysis outlined in the Guidance.

Ohio EPA then proposes to define the most protective of primary headwater habitats, the Class III primary headwater habitat, in virtually the same way that it proposes to define a native cold water fauna stream (i.e. by the presence of either a fish, salamander or four flies from Table 7-2 of proposed O.A.C. 3745-1-07). As a consequence, Ohio EPA reinforces its desire to place any seep, spring or stream where four flies can be found to a classification of streams where "avoidance of impact is highly preferred wherever feasible and practicable." See Proposed O.A.C. 3745-1-07(F)(9)(d)(iii). Even where Ohio EPA would allow a disturbance to a Class III habitat, a 3:1 mitigation ratio will be required, requiring a property owner (or other applicant) to replace each foot of disturbed Class III primary headwater habitat with 3 feet of new habitat-far more mitigation than is necessary to insure "no net loss" of waters of the State. In short, Ohio EPA wishes to subject economic development and industrial activity in this State to the unguided and unpredictable travel patterns of flies and to impose onerous mitigation requirements on the property owner of any small spring, seep or rivulet where these flies might come to rest for any period of time. It is doubtful that the General Assembly ever intended, let alone authorized, Ohio EPA's jurisdiction under R.C. Chapter 6111 to extend so far. As such, the Trade Association Coalition cannot support this proposed change. (Trade Association Coalition)

Specific Comments

Comment 38: OAC 3745-1-56(A) and (B) stream mitigation requirements are based solely on the stream mitigation category, without regard to the duration of the impacts. The new mitigation rules do not differentiate between permanent and temporary impacts. When possible, DEO endeavors to avoid stream impacts by routing and the use of Horizontal Directional Drilling (HDD). However, many existing gas pipelines and new pipeline installations occur beneath streams and rivers and, for smaller streams, HDD may not be possible. Within smaller streams, an open cut construction method with an excavated trench is used to place, replace, or repair the pipe. During the excavation, stream substrate is segregated so

that the top substrate layer is separated and replaced as the final, top layer during stream restoration activities. In addition, streams and the surrounding area are restored and pre-construction contours are maintained.

Stream impacts are temporary with the period between excavation and restoration typically measured in weeks. The functions and values of these streams return to preconstruction conditions after using the practices required by the General Conditions of the United States Army Corps of Engineers Nationwide Permits. Furthermore, there is no significant on-going impact to the stream once the pipeline installation is complete. In general, pipelines are expected to function for approximately 75 years, and once the pipeline has been installed there is usually no need to re-excavate the pipe unless it is breached in some way and must be repaired or replaced. Right-of Ways (ROWs) are maintained by mowing every two to three years using a tractor and brush hog mower. Tractor operators avoid crossing streams where possible; but, when a stream must be crossed, the tractor will cross in a single pass, and only when the stream bed is completely dry. There is little to no disturbance as a result of the equipment crossing. Consequently, the impacts to streams through pipeline activities and ROW maintenance is temporary and should not be treated in the same way as projects resulting in permanent impacts.

By not distinguishing between permanent and temporary stream impacts in the regulations, DEO and others will be required to implement excessive mitigation measures, when there have been no lasting impacts to the stream or to the aquatic resources within the stream. As noted, the functions and values return to the streams that are temporarily impacted. DEO respectfully requests Ohio EPA to exempt projects that are authorized by the United States Army Corps of Engineers Nationwide Permitting system (Nationwide Permit) with temporary stream impacts so that the required mitigation is appropriate for the actual impact to the waterbody. (Dominion East Ohio)

Comment 39: (B) Stream mitigation categories. As part of the application process, the applicant shall determine, subject to the director's approval, the applicable mitigation categories for streams or stream segments pursuant to this paragraph. If necessary, a use attainability analysis to determine the existing use of the stream shall be conducted and the data provided to Ohio EPA for review and approval as part of the application.

Comment: The rule 3745-1-56(B) must be consistent with the statement published in "Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)." Section 1.3, page 6. "It should be noted that in many instances, a stream that is subject to a 401 Water Quality Certification review will not be specifically designated with an aquatic life use, and that a use attainability analysis will be required in order to properly

assign the stream to a mitigation category”. The use attainability analysis shall be required only in the case that the existing use of the stream is not assigned in rules 3745-1-07 to 3745-1-30 of the Administrative Code. Also, clarification needs to be provided as to what “use” the rule is addressing, aquatic life use designations or beneficial use designation. (Kleski Environmental Consulting)

Comment 40: Small Drainage Way Requirements

Ohio EPA's proposed Mitigation Rule and the accompanying Guidance seek to impose mitigation requirements on small drainage ways. See Proposed O.A.C. 3745-1-56(B)(1)(b); Guidance at 6. However, the Mitigation Rule contains no definition of "small drainage ways", and presumably, the Mitigation Rule seeks to impose mitigation requirements on local units of government, utilities, and companies which maintain man-made drainage ways on their property. These drainage ways were designed and constructed to prevent flooding of vital infrastructure, such as haul roads, highways, railroad lines, buildings and other facilities and were never intended to function as aquatic habitat. As such, the drainage ways should not be required to perform mitigation as the price for conducting routine, periodic maintenance to keep such drainage ways free from aquatic growth, trash or other obstructions. The environmental impacts from drainage way maintenance are minimal at best. In fact, these kinds of activities are typically authorized by the ACOE pursuant to Nationwide Permit No. 31 - a permit authorized where there are "minimal individual or cumulative impacts to the aquatic environment from an activity." 47 F.R. 11092 (March 12, 2007). There is no reason why the Ohio EPA should expect or require any additional mitigation requirements for these kinds of activities. (Trade Association Coalition)

Comment 41: 3745-1-56(B)(1)(b) “Limited resource water, small drainageway maintenance;”

Comment: The term “small drainageway maintenance” defined in 3745-1-07(F)(6)(b) could describe roadside ditches that are not captured streams. The ramifications of including upland roadside ditches, constructed solely to drain the road surface, in the stream mitigation categories could result in stream mitigation being required offsite for curb and gutter projects, or culvert projects where these ditches are eliminated. Further is it unclear how impacts to these ditches, for the purposes road maintenance and widening, would relate to existing or new, but yet to be defined, limits and thresholds for NWP's, general, and Individual SWQ permitting. (ODOT)

Comment 42: 3745-1-56(B)(1)(e)

Comment: add “regardless of class” as written in the CMRSISOv5 Section 1.3.1 page 7. (ODOT)

Comment 43: 3745-1-56 (B)(2)(b) “..greater than or equal to forty;..”

Comment: See comment under 3745-32-03 (B)(4)(a)(iv). (ODOT)

Comment 44: 3745-1-56(B)(3)(d) Streams assigned to mitigation category 3
The Conservancy recommends that Class III PHWH streams be placed in Mitigation Category 4 (instead of 3) to ensure protection of aquatic life specific to these streams.

We are concerned that placing mitigation of Class III PHWH streams into Mitigation Category 3 will result in loss of use, and would lead to impairment of aquatic life use. Class III PHWH streams represent an unusual collection of aquatic species, especially amphibians, and these species will be lost without mitigation designed to ensure protection of such aquatic life. For example, some of the species are dependent on Class III habitat perpetuation, as the agency has identified.¹⁷ Certain salamander and fish species depend on Class III habitat features, especially pools and permanent (or nearly so) water, and some species would be lost if flow and water temperature features are not met. Fish species that could be affected include reddsides dace and central mottled sculpin.

Warmwater streams also need to be considered for Mitigation Category 4. Many WWH streams impact downstream uses, especially EWH, and have communities of fish that would be hard to replace, such as declining species, or support downstream use designations such as EWH. Therefore we fear impairments and loss of use, and further declines in fish and mussel species if these streams are placed in Mitigation Category 3. WWH streams also might be SHQW or OSW streams. These are easily impacted and their mitigation has downstream impacts, and must be replaced at Mitigation Category 4. (The Nature Conservancy)

Comment 45: The draft rule identifies several points in the review where technical staff must make subjective decisions based on limited data. Putting technical staff in this position will lead to delays and inconsistencies in permit issuance. The draft rule should be augmented with specific criteria for making these judgments so that applicants can anticipate and provide the needed information at the time of application. For example:

3745-1-56(C) – ‘The director may reassign streams to a different mitigation category...if the director determines there are technically justified reasons for making the adjustment.’ This decision is supposed to be based on ‘...an analysis of the effects of the proposed mitigation plan upon the attainment of applicable water quality criteria and the maintenance of existing and designated uses in downstream waters.’ Without any guidance or criteria on how to make these decisions, staff reviews will be overly lengthy and inconsistent among reviewers.

3745-1-56(D)(3)(e)(ii) – ‘The director may waive the addition of required mitigation credits...if it is determined that:’. The three bullets following this statement are subjective conditions that will lead to

delays and inconsistencies in permit decisions. (Hull & Associates, Inc.)

Comment 46: (C): The Mitigation Rule provides that the Director may reassign a stream to a different mitigation category if there are "technically justified" reasons for making the adjustment, such as downstream adverse impacts that could occur if the stream was classified under its original mitigation category. While this language allows the Director to re-determine the amount of mitigation required based on a stream's contribution to a cumulative impact to downstream areas, it fails to account for sources completely outside of the applicant's control which may be causing the impact. Effectively, the Mitigation Rule forces applicants to bear the consequences and the mitigation costs of impacts potentially caused by other sources. Ohio EPA should revise this provision to only require additional mitigation where the Director can demonstrate by a preponderance of evidence that the applicant is in fact responsible for the downstream impacts. (Trade Association Coalition)

Comment 47: 3745-1-56(C) "On a case-by-case basis, the director may re-assign streams to a different mitigation category.."
Comment: Allowing a random and subjective change of the mitigation category by director is unacceptable. This section should provide clear situations or criteria that must be met before the director could make such a drastic and potentially detrimental change of mitigation category. (ODOT)

Comment 48: 3745-1-56(C). The OEC recognizes the need to provide the Director with the flexibility to alter the stream mitigation categories, we caution the downgrading of these categories. Such a provision supports the need for a UAA conducted by a Tier 3 QDC.

The OEC urges the Agency to codify the section in the Stream Mitigation Protocol document that provides the Director with the determinations he must make prior to reassigning a lower mitigation category. Such downgrading and reassigning of lower mitigation categories must be grounded in sound science.

In order to lower the mitigation category for a stream segment, the Director should be required to demonstrate the following: 1) the current condition meets the criteria of another aquatic life use designation, 2) the condition is the result of historical modification to the stream channel that is intermittent in nature or of a long-term duration which is unlikely to change and 3) the mitigation criteria applied under the lower designation will be protective of downstream beneficial uses. (Ohio Environmental Council)

Comment 49: 3745-1-56(C): "(C) On a case-by-case basis, the director may re-assign streams to a different mitigation category listed in paragraph (B) of this rule if the director determines there are technically justified reasons for making

the adjustment. Examples include but are not limited to a demonstration that downstream waters could be adversely impacted under the mitigation requirements imposed through the original mitigation category or a demonstration that a designated aquatic life use is not attainable in a stream segment due to irretrievable conditions. The re-assigned mitigation category shall be based upon site-specific data. The director shall make re-assignments based upon an analysis of the effects of the proposed mitigation plan upon the attainment of applicable water quality criteria and the maintenance of existing and designated uses in downstream waters.”

EPA Comment: Examples should be expanded to reflect the possibility of assigning a stream to a higher mitigation category based on the current aquatic life use attainment. (U.S. EPA, Region 5)

Comment 50: 3745-1-56(D) states that the assessment of stream mitigation plans ‘...shall use a standardized methodology...to evaluate the impacts of projects and the likely effectiveness of mitigation plans to restore water quality functions..., maintain vertical channel stability and maintain habitat for aquatic life.’ The rule then introduces the Compensatory Mitigation Requirements document as the standardized methodology to follow. In the reviewer’s opinion, this constitutes Ohio EPA’s endorsement that following the Compensatory Mitigation methodology will result in maximum achievement of these water quality, vertical channel stability and habitat goals. The reviewer approves of this approach, as it establishes Ohio EPA as a partner in the mitigation planning effort with a share of the responsibility for the success or failure of mitigation implementation. In light of the preceding paragraph, the following bullets (1) and (2) are redundant; the requirements in these bullets will be met if the Compensatory Mitigation Requirements methodology is followed. (Hull & Associates, Inc.)

Comment 51: 3745-1-56(D) ”The director shall assess each proposed project and activity covered by this rule on a case by case basis.”
Comment: This level of flexibility is welcomed; however, a timeline of this review should be provided for clarification and regulatory predictability. (ODOT)

Comment 52: 3745-1-56(D) Stream mitigation requirements
Page 2 of Ohio EPA’s “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)” states:

“applicants who are required to develop stream mitigation plans are encouraged to use sound ecological and engineering principles based upon state of the art knowledge in the development of their plans. It is recognized that the science behind stream assessment, protection and restoration methodologies is constantly evolving.”

We strongly encourage Ohio EPA to rely on aquatic life use-based use performance criteria, and comprehensively review the biological results of stream mitigation efforts. This includes those where stormwater units might be allowed to replace functions of headwater streams. The Agency should establish requirements that achieve biological goals. Mitigation should have performance criteria based on biological outcomes, and not only on engineering. If designs result in poor biological performance or downstream impacts, Ohio EPA should establish an approach that avoids these designs.

As we note elsewhere in these comments, we are very concerned that replacement of streams with stormwater units will cause problems for temperature and flow.¹⁸ We are concerned that Mitigation Categories 1 and 2 will result in significant temperature increases in streams. Ohio EPA should ensure that stormwater unit-related temperatures are not damaging, and that stormwater management does not cause ecologically damaging changes in flow, especially base flow.¹⁹

For an example partially addressing stormwater unit temperature issues, see the 2009 Maryland Stormwater Design Manual²⁰ Chapter 3, page 3.1:

“In USE III watersheds, temperature increases caused by development are a primary impact to the quality of receiving waters. Stormwater BMPs may contribute to this problem. Therefore, to minimize temperature increases caused by new development in USE III watersheds, stormwater BMP designs should:

- a) Minimize permanent pools,
- b) Limit extended detention times for C_{pv} to 12 hours (see Appendix D.11),
- c) Provide shading for pools and channels,
- d) Maintain existing forested buffers, and
- e) Bypass available baseflow and/or springflow.”

Proposed OAC 3745-1-56(D) states:

“Mitigation for impacts to streams shall be designed based upon the stream mitigation categories at the project location and, where necessary to protect downstream water quality standards, the stream mitigation categories of downstream waters.”

The Conservancy strongly supports the “need to protect downstream water quality standards” in this section excerpted above. We ask that the Agency conduct a study and establish a protocol to evaluate when downstream quality is degraded. The Agency has an extensive database and indices, specifically the stream quality Index of Biotic Integrity (IBI) and the stream habitat Qualitative Habitat Evaluation Index (QHEI) to do this, as well as other measures. As one approach, these data should be used to help

determine when there might be lowered habitat quality and resultant conditions, such as might be allowed under this mitigation rule, would result in a lowering of downstream quality. Stream mitigation should be designed to meet these standards, and to assure the public is getting adequate replacement of stream biological quality.

We strongly support mitigation requirements that rely on adequate stream habitat design. This design must be based on biological goals, and not only “ecosystem services,” such as floodplain capacity or floodprone area. The design and mitigation requirements must include a margin of safety.

Proposed OAC 3745-1-56(D)(3)(c)(iii) states there should be “Suitable habitat for aquatic life as measured with the qualitative habitat evaluation index.” We strongly support the use of the QHEI, and emphasize there must be adequate specific design features that ensure that QHEI goals and aquatic life use goals are met, such as riparian and floodplain topsoil replacement, revegetation with native species, appropriate channel substrate and pool/riffle complexes. We support the establishment of the proposed “Metric Evaluation Index” and “Habitat Index Target” (See Table 10, Page 41, of Ohio EPA’s “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)”).

We also encourage the Agency to develop methods to determine impacts on mussel species, many of which are declining and rare in Ohio. As a group, mussels are the most threatened community of aquatic species, many are now listed as rare, and are very sensitive to habitat quality. We are concerned that Mitigation Category 3 will not provide suitable habitat for mussels. Where at least moderately sized or diverse mussel communities exist, or might be restored, we encourage the Agency to require Mitigation Category 4. We also encourage review for downstream impacts on mussels. (The Nature Conservancy)

Comment 53: 3745-1-56(D): “(D) Stream mitigation requirements. Mitigation for impacts to streams shall be designed based upon the stream mitigation categories at the project location and, where necessary to protect downstream water quality standards, the stream mitigation categories of downstream waters. The director shall assess each proposed project and activity covered by this rule on a case-by-case basis. The assessment shall use a standardized methodology acceptable to the director to evaluate the impacts of projects and the likely effectiveness of mitigation plans to restore water quality functions of the stream and flood prone area, maintain vertical stream channel stability and maintain habitat for aquatic life. Except as allowed under paragraph (E) of this rule the applicant shall develop mitigation plans as described in this paragraph using the methods published in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0).””

EPA Comment – EPA recommends that assessments to evaluate impacts of projects and likely effectiveness of mitigation plans include biological and chemical evaluations as well. This would provide for a holistic approach to evaluating impact sites and inform decisions regarding the establishment of performance standards. (U.S. EPA, Region 5)

Comment 54: 3745-1-56(D)(1) “..must ensure the protection of downstream water quality standards.”

Comment: Clarification should be provided on the limits “downstream” where applicants must provide and assess impact. Further clarification on how the applicant can “ensure” protection of a downstream use, beyond the limits of the property owned or controlled by the applicant, should be provided. Interestingly, guidance for antidegradation review of downstream impacts is provided in the CMRSISOv5 page 11, similar limitations within this rule would potentially clarify the rule. (ODOT)

Comment 55: 3745-1-56(D)(2) “All re-constructed or modified stream channel segments must ensure the maintenance of vertical stability of the stream channel under anticipated land use and stream flow conditions.”

Comment: What level of analysis does OEPA anticipate applicants to perform to understand anticipated land use outside of the applicants owned or controlled property? (ODOT)

Comment 56: 3745-1-56(D)(3) – This section includes the comment “Applicants who meet the conditions in this paragraph are exempted from certain antidegradation requirements as described in rule 3745-32-04 of the Administrative Code.” The exemption from avoidance and minimization requirements is not consistent with the federal mitigation rule. (USACE)

Comment 57: (D)(3) “Conditions for approving on-site mitigation without additional off-site mitigation.”

(a) Mitigation Category 1. Stream mitigation can be accomplished entirely on-site if the applicant demonstrates the maintenance or improvement in water quality functions of the flood prone area using the methods described in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0).”

Comment: It should be specified within the rule 3745-1-56 (D)(3)(a) and in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)” exactly how the applicant should demonstrate the maintenance or improvement in water quality functions of the flood prone area, whether it be solely from the score of the adjusted flood prone area metric or whether it be some other mechanism. It is unclear how the function of the flood prone area is to be assessed and documented.

As currently stated within the rule 3745-1-56 (D)(3)(a) and described in “Compensatory Mitigation Requirements for Stream Impacts in the State of

Ohio” (Revision 5.0)., it is unclear the specific requirements for approving on-site mitigation for each of the categories.

Consider the following statements concerning requirements for Category 1 streams:

1. Section 1.3.1. page 7. “These streams [Category 1] provide no habitat for well balanced communities of aquatic organisms defined within Ohio’s biological water quality criteria. Therefore, replacement of a defined stream channel is not a requirement for mitigation of Mitigation Category 1 streams.”
2. Section 2.2. page 15, Table 2.
Vertical Stability: “Stream reach must be vertically stable (demonstrate that incision will not occur during a project-specific monitoring period)”;
Flood Prone Area: “The greater of the area based on existing flood prone width OR area based on percentage of the target streamway width”;
Floodplain Soils: “Suitable to support native Ohio vegetation suited for locale”;
Riparian: “Stable bank with native vegetation, and no more than 2 cuttings/year”.
3. Section 2.3.1., page 17. “For Mitigation Category 1 streams, replacement of functional flood prone area or channel reconstruction in accordance with the procedures described in Section 3.1 or 3.2 of this manual, as appropriate, to meet the on-site mitigation standard set in OAC 3745-1-56 (D)(3)(a).”
4. Section 3., page 30. “Mitigation Category 1 and 2 streams with channel slopes that are less than 2 percent: replacement or enhancement of water quality functions associated with the flood prone area. [Criteria used to determine the degree of flood prone area necessary to meet the mitigation requirements are described in Section 3.1.]”
5. Section 3., page 30. “Mitigation Category 1 and 2 streams with channel slopes that are greater than or equal to 2 percent: establishment of a vertically and laterally stable channel with proper cross-sectional dimension. [Criteria for meeting this requirement are provided in Section 3.2.]”
6. Section 7.2., page 63. “General requirements for re-vegetation of areas adjacent to Mitigation Category 1 and 2 segments are listed below.”
 1. “Disturbed areas adjacent to and on the side slopes of relocated, reconstructed, or restored channels shall be planted with native Ohio species appropriate to the setting and mitigation requirements based stream mitigation category and the downstream designated or existing uses;

2. Where woody riparian plant communities are not deemed necessary to protect downstream uses or habitat for aquatic life, maintenance cutting on an infrequent basis (1 or 2 times per year) is allowable to control unwanted vegetation if approved as part of a site maintenance plan.
3. Where the mitigation requirements call for the establishment or enhancement of woody riparian buffer adjacent to the stream, herbaceous ground cover and shrubs shall be planted to stabilize the stream margins until woody vegetation can become established.
4. Herbicide use within the flood prone width of the stream channel shall be allowed for control of invasive plants only in conformance with an approved mitigation maintenance plan.”

Based on this review, it is clear that the specific conditions of mitigation need to be clarified and presented in a comprehensive manner that describes all of the requirements and expectations for each category and for each channel slope grouping. It is also important to consider that the above statements involve just one of the categories, and it is the one with the least requirements. (Kleski Environmental Consulting)

Comment 58: 3745-1-56(D)(3) Conditions for approving on-site mitigation without additional off-site mitigation.

The Conservancy is concerned that Mitigation Categories 1 and 2 will result in low diversity and low quality ponds and wetlands rather than stream channel construction. Many Stormwater Best Management Practices will result in inadequate protection due to temperature increases. This could result in loss of downstream uses, and especially for PWH Classes 2 and 3, for loss of species. Modified Warmwater Habitat (MWH) is in this category, and MWH streams could be restored to a higher use designation, which Category 1 and 2 will not provide. The proposed protocol and rule does not encourage the higher use potential that MWH streams might have.

In Mitigation Categories 1 and 2, the Conservancy suspects that floodprone area designs without stream habitat features will result in features that are more wetland than stream. We encourage the Agency to not allow the establishment of wetlands as substitutes for streams, and we note that we expect impacts similar to stormwater units, such as temperature increases and downstream impacts. (The Nature Conservancy)

Comment 59: 3745-1-56(D)(3)(a): “(a) Mitigation category 1. Stream mitigation can be accomplished entirely on-site if the applicant demonstrates the maintenance or improvement in water quality functions of the flood prone

area using the methods described in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0).”

EPA Comment – Flood prone area functions are not the only functions of Mitigation Category 1 streams and impacted streams should be replaced in kind with streams. EPA recommends stating in rule that streams with greater than 2% slope require additional design criteria. (U.S. EPA, Region 5)

Comment 60: 3745-1-56 (D)(3)(b)(i) “A minimum of one to one replacement of stream channel length;”

Comment: This appears to contradict with the approach described in the document referred to in (D)(3)(b)(ii). CMRSISOv5 page 31-34 Sections 3.1 thru 3.2.1 describe designing and providing stream mitigation by the replacement of appropriate flood prone area and a vertically stable channel and not by 1:1 linear foot replacement. See page 32 where it states, “..ecological services provided to the watershed are most closely linked to the total streamway area rather than the stream length..”. (ODOT)

Comment 61: (D)(3) “Conditions for approving on-site mitigation without additional off-site mitigation.”

(b) Mitigation Category 2.

(ii) The maintenance or improvement in water quality functions of the stream and flood prone area using the methods described in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0).”

Comment: It should be specified within the rule 3745-1-56 (D)(3)(b)(ii) and in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)” exactly how the applicant should demonstrate the maintenance or improvement in water quality functions of the stream and flood prone area, whether it be solely from the score of the adjusted flood prone area metric or whether it be some other mechanism. (Kleski Environmental Consulting)

Comment 62: 3745-1-56(D)(3)(b): “(b) Mitigation category 2. Stream mitigation can be accomplished entirely on-site if the applicant demonstrates:

(i) A minimum of one to one replacement of stream channel length;

(ii) The maintenance or improvement in water quality functions of the stream and flood prone area using the methods described in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0);” and

(iii) For streams designated limited resource water, acid mine drainage where QHEI scores representative of the impacted stream segment are found to be greater than or equal to forty and for streams designated modified warmwater habitat, suitable habitat for aquatic life as measured with the qualitative habitat evaluation index using

the methods described in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0).”

EPA Comment – EPA recommends adding another parameter which would require that an appropriate flow regime be established/demonstrated on the mitigated reach in replacement projects.

Further, the Ohio Department of Natural Resources 2011 technical report “A Functional Assessment of Stream Restoration in Ohio” specifically states on page 56 “The Division of Soil and Water Resources agrees with Ohio EPA (2004b) and recommends HHEI nor be used to judge restoration success. Furthermore, HHEI certainly should not be used as indicator of overall physical integrity. Perhaps the use of biotic and habitat indicators can best serve for measuring watershed scale long term success of the programs designed to influence reach scale restoration.” EPA agrees that biological monitoring is necessary to determine the actual success in aquatic habitat mitigation requirements. (U.S. EPA, Region 5)

Comment 63: 3745-1-56 (D)(3)(b)(i) Why is "appropriate bed form, meander pattern, and longitudinal profile" specifically required for categories 3 and 4 mitigation but not category 2? Section 1.3.2 of Revision 5.0 Requirements calls for a stable channel for category 2 mitigation. (NEORSD)

Comment 64: 3745-56-1(D)(3)(c). Stream Mitigation Requirements – Mitigation Categories 1 and 2. As described above, through the implementation of a stream restoration plan, DEO restores all stream channels temporarily impacted by the open cut construction method, regardless of the Mitigation category classification. For Mitigation category 1 and Mitigation category 2 streams, it would appear that our proposed mitigation meets or exceeds the required mitigation. DEO does not propose to change our protocol regarding temporary impacts to these streams.

Less frequently, pipeline projects require a Section 401 Water Quality Certification (WQC) in addition to a Nationwide Permit. For these projects, the same restoration activities are required to comply with the Nationwide Permit. As defined in the draft stream mitigation requirements, for Mitigation category 1 and Mitigation category 2 streams it would appear that the restoration efforts and BMPs in these streams required by the general, regional and state conditions of the Nationwide Permit meet or exceed the required mitigation in a WQC. Considering the above, DEO requests that Ohio EPA consider amending the draft rules to specifically exclude all linear, utility line projects that impact Mitigation category 1 and Mitigation category 2 streams and which qualify for coverage under the Nationwide Permit. (Dominion East Ohio)

Comment 65: 3745-56-1(D)(3)(c). Stream Mitigation Requirements – Mitigation categories 3 and 4. Companies have the option to utilize HDD to cross

larger streams, high quality streams, and streams exhibiting rare, threatened, and endangered species. On occasion, however, companies must open cut perennial headwater streams, some of which may be categorized as Mitigation category 3 or, more unlikely, Mitigation category 4 streams. For impacts to Mitigation category 3 or 4 streams, the draft rules require stream replacement and a design to address any deficiencies (floodplain, etc.) that may be affecting the stream. DEO's construction protocol requires restoration of the stream and surrounding area to pre-construction conditions. Because mitigation projects are intended to ensure "no net loss" of stream use, water quality function, and overall integrity, and these impacts are temporary with the pre-construction values and functions restored, DEO requests that OEPA consider amending the draft rules to specifically not require additional enhancement and the monitoring that would likely accompany such enhancement for all linear, utility line projects that impact Mitigation categories 3 and 4 streams and qualify for the Nationwide Permit. (Dominion East Ohio))

Comment 66: 3745-1-56 (D)(3)(c)(i) "A minimum of one to one replacement of stream channel length;"

Comment: this appears to contradict with the approach described in the document referred to in (D)(3)(c)(ii). CMRSISOv5 describes designing and providing stream mitigation by the replacement of appropriate flood prone area and habitat area and not by 1:1 linear foot replacement. (ODOT)

Comment 67: 3745-1-56(D)(3)(c)(ii) "The replacement of stream channel with appropriate bed form, meander pattern, and longitudinal profile appropriate to the watershed setting."

Comment: Stream replacement should be based on stream prior to permitting. Replacing a stream in a natural state in a limited segment may not be possible given existing and historic up and down stream impacts. (ODOT)

Comment 68: 3745-1-56 (D)(3)(c)(ii) "...vegetated riparian buffer shall be provided to maintain or enhance water quality functions to maintain existing beneficial uses using the methods described in "Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0);"

Comment: The relationships and differences between floodprone area and riparian area should be provided and discussed somewhere in the new rules or supporting documents. Riparian areas should be not based on stagnant widths but be based on calculated floodprone areas. Establishment of a riparian buffer for streams may not be physically possible for streams previously manipulated along transportation corridors or within other developed areas. The physical proximity to roadways may also limit the nature and size of vegetation that ODOT can safely allow to become established near the roadway. Also, limiting plant selection to only native plants (see Section 7 page 60 of the CMRSISOv5 and our corresponding comments below) may also limit the development of

vegetated cover in these areas. OEPA should explicitly include flexibility in the required plant community size and composition that would allow ODOT to maintain a plant community that would meet the needs of some water quality protection aspects and maintain public safety. (ODOT)

Comment 69: (D)(3) “Conditions for approving on-site mitigation without additional off-site mitigation.”

(c) Mitigation Category 3 and 4.

(ii) “The replacement of stream channel with appropriate bed form, meander pattern, and longitudinal profile appropriate to the watershed setting. In addition, adequate flood prone area and vegetated riparian buffer shall be provided to maintain or enhance water quality functions to maintain existing beneficial uses using the methods described in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0);”and”

Comment: It should be specified within the rule 3745-1-56 (D)(3)(c)(ii) and in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)” exactly how the applicant should demonstrate adequate flood prone area and vegetated buffer, whether it be solely from the score of the adjusted flood prone area metric or whether it be some other mechanism. (Kleski Environmental Consulting)

Comment 70: (D)(3) “Conditions for approving on-site mitigation without additional off-site mitigation.”

(c) Mitigation Category 3 and 4.

(iii) “Suitable habitat for aquatic life as measured with the qualitative habitat evaluation index or the headwater habitat evaluation index using the methods described in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0);”

Comment: It should be specified within the rule 3745-1-56 (D)(3)(c)(iii) and in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)” exactly how the applicant should demonstrate suitable habitat for aquatic life, whether it be solely from the score of the adjusted habitat area metric or whether it be some other mechanism.

Further, the specific conditions of mitigation for Category 3 and 4 streams needs to be clarified and presented in a comprehensive manner that describes all of the requirements and expectations for each category and for each channel slope grouping. At the very least, it is suggested that a section describing the replacement requirements for Mitigation Category 3 and 4 streams be added to “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)”, which is similar to Sections 3.1 and 3.2 regarding Category 1 and 2 streams. Of particular concern is the lack of consideration for Category 3 and 4 streams that have

a gradient >2%. As currently published, it is unclear the requirements for streams of this type. (Kleski Environmental Consulting)

Comment 71: (D)(4) “Where on-site replacement is not provided that meets the requirements of paragraph (D)(3) of this rule, applicants must provide suitable mitigation using the debit-credit system described in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0).” Mitigation credits may be generated on-site, off-site, or in combination.”

Comment: This statement implies that the debit-credit system is not applied in the situation where on-site replacement is meeting the requirements. It is unclear how an applicant can determine whether the requirements of the on-site mitigation are being met without using the debit-credit system described in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)”. (Kleski Environmental Consulting)

Comment 72: (D)(4) “Where on-site replacement is not provided that meets the requirements of paragraph (D)(3) of this rule, applicants must provide suitable mitigation using the debit-credit system described in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0).” Mitigation credits may be generated on-site, off-site, or in combination.”

(a) Debits and credits shall be calculated for two metrics, adjusted flood prone area and adjusted habitat area, using the procedures provided in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0).”

Comment #1: There are two technical aspects that need further consideration when calculating adjusted flood prone area and adjusted habitat area. A component of the adjusted flood prone area is the Soils Quality Factor or Soils Weighting Factor (it is referred to in both ways). In Section 4.2, page 39 of “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)”, Table 9 lists two factors, permeability and organic matter, used to determine the appropriate Soils Quality Factor. It is unclear how to assign the Soils Quality Factor if the permeability and organic matter indicate two separate categories (i.e. one may indicate “excellent” Soils Factor where the other indicates “poor” Soils Factor). Another point to consider, these two parameters may have ranges of permeability and organic matter that extends several categories (i.e. a soil type may have a range of permeability that falls in the categories indicative of excellent and poor). It should be specified within the “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)” how the Soils Quality Factor is assigned given the two likely scenarios described above.

A component of the adjusted habitat area is the Habitat Condition Factor. In Section 5.2.3., page 46 of “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)”, Table 12 describes the condition classification system for primary headwater habitat streams using the HHEI assessment of the degree of channelization. Based on the PHWH methodology for determining channelization impacts, a relocated channel cannot obtain the “excellent” value of 1.2 because it has visual evidence of historical channel alteration, channel relocation, bank shaping, or armoring. This seems inappropriate when you consider that a restored channel may have many functional habitat features such as cover and refuge and diverse channel geomorphic units but receive a lower score regardless.

Finally, “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)”, should describe the methodology used to develop the numerical values for each of the categories for the Soils Quality Factor and Habitat Condition Factor. Both factors are multiplicative and could weigh significantly on the results. In order for the public to adequately review the proposed requirements, it is imperative that the methodology used to develop each component is available and published in a way that can be evaluated.

Comment #2: As currently presented, a systematic review of the proposed mitigation rule is impossible because the methodology used to develop the criteria is not available and published in a way that can be evaluated. For example in Section 3.2.1, page 33 of “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)”, Table 8 lists design criteria for high gradient streams without any reference to the science used to develop the channel dimensions. Further, the basis for the proposed mitigation rule is, in part, based on findings from “A Functional Assessment of Stream Restoration in Ohio” (Ohio DNR Division of Soil Water, 2011), and many critical components are presented in way that cannot be easily understood and reviewed. The documentation on which the science is established should be made public and the cooperation of the industries that utilize the techniques of stream reconstruction consulted.

Please consider the following example using the mitigation activities conducted at the Ulman Surface Coal Mine Section 404 NW-21 permit for the Stream “A” upper stream valley when evaluating the inconsistencies and difficulties that are likely to result if the proposed rules are accepted as currently written.

Step One: Determine stream mitigation category

Ulman case study: In the case of the Ulman Surface Coal Mine Permit, the Primary Headwater Habitat protocols were not the preferred assessment method by the regulatory community and therefore a QHEI was performed on June 17, 2002. Based on the QHEI score (37.5), a “provisional” use

designation of LRW-AMD can be assigned putting this in the stream mitigation Category 1. Based on the best available data, Ulman Surface Coal Mine Permit is assigned a mitigation category 1.

Point of Consideration: Because of the large scale of mining operations, the methodology to determine the existing use of the stream may change from the time when the mining activities begin to when mitigation is initiated. Further consideration and guidance needs to be provided about how to determine the use designation (and in turn the mitigation category) for projects that are currently in progress that do not have the historic data to apply to the methods currently accepted by Ohio EPA. Ohio EPA must be aware that applicants will have to use whatever historic data is available (i.e. QHEI scores for PHWH streams, etc.) unless they are provided with a scientific viable alternative.

Step Two: Determine the requirements for mitigation category 1 according to rules

Ulman case study: According to the rule 3745-1-56 (D)(3)(a), Category 1 mitigation must demonstrate “the maintenance or improvement in water quality functions of the flood prone area using the methods described in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0).”

Point of Consideration: It should be specified within the rule 3745-1-56 (D)(3)(a) and in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)” exactly how the applicant should demonstrate the maintenance or improvement in water quality functions of the flood prone area. The rule should clearly state the mechanism (i.e. metric and measurement) to be used to demonstrate function of the flood prone area.

Step Three: Determine the requirements for mitigation category 1 according to “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)”

Ulman case study: The specific requirements for approving on-site mitigation for Category 1 streams are not clearly provided, but the following are some of the conditions from “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)”: 1.) a defined stream channel is not a requirement; 2.) (streams <2%) the stream reach must be vertically stable (it is not specified how to predict or measure vertical stability); 3.) (streams <2%) flood prone area based on existing flood prone width OR area based on percentage of the target streamway width; 4.) (streams <2%) riparian requirements of a stable bank with native vegetation, and no more than 2 cuttings/year (it is not specified how to predict or measure bank stability).

As listed on the QHEI form dated June 17, 2002, the stream reach has a 0.07 gradient; and therefore, would fall into the requirements for streams <2% slope.

To calculate the Adjusted Flood Prone Area equal to 30% calculated streamway target

1. WSW = Target Streamway Width (ft)
 - $WSW = 147 * DA^{0.38}$, where DA = upstream drainage area in mi^2
 - $DA = 0.04 mi^2$
 - $147 * 0.04^{0.38} = 147 * 0.294295 = 43.26 ft$
 - $WSW = 43.26 ft$
2. ASW = Target Streamway Area (acres)
 - $ASW = WSW * Lv \div 43,560$
 - $WSW = 43.26$; Lv (Valley Length) = 2312.8 (as calculated by John on the attached map)
 - $ASW = 43.26 * 2,312.8 \div 43,560$
 - $ASW = 2.3 acres$
3. The minimum Adjusted Flood Prone Area needed for mitigation credit = 30% of target
 - $2.3 acres * .3 = 0.689 acres$
 - Adjusted flood prone area equivalent to 30% of the target streamway area = 0.7 acres

To calculate the Adjusted Flood Prone Area

4. FPA_{low} = 1.02 acres
 - Area inundated or saturated at bankfull stage (D_{max})
 - $D_{max} = 2.2 * (DA)^{0.24}$, where DA= Drainage Area= 0.04
 - $D_{max} = 1.0161$
 - Includes the bankfull channel
5. FPA_{int} = 0.5 acres
 - Flood prone area that lies between the Bankfull elevation (FPA_{low}) and 1.5 times D_{max}
 - Total acres at or below $1.5 * D_{max} = 1.52 acres$
 - Must subtract FPA_{low} (1.02 acres)= $1.52 - 1.02 = 0.5$
6. FPA_{high} = 0.51 acres
 - Flood prone area that lies between the $1.5 * D_{max}$ elevation and $2.0 D_{max}$
 - Total acres at or below $2.0 * D_{max} = 2.03 acres$
 - Must subtract FPA_{low} (1.02 acres) + FPA_{int} (0.5 acres)= $2.03 - 1.52 = 0.51$
7. $A_{fp} = (FPA_{low} + 0.8 * FPA_{int} + 0.5 * FPA_{high}) * Swf$
 - Equation 5 in Section 4.3 of protocol
 - Swf = soil weighting factor = I am still unclear how to determine, see my comment for (D)(3)(a)
 - The following are the soils and ranges of permeability and organic matter for the soils at Ulman:

Soils	Permeability	Organic Matter
Gke2	0.6-2.0	0.5-4
GkF2	0.6-2.0	0.5-4

- I assigned a “fair” soil description, $Swf = 0.8$
- $Afp = [1.02 \text{ acres} + (0.8 * 0.5 \text{ acres}) + (0.5 * 0.51 \text{ acres})] * 0.8$
 - o $= 1.675 \text{ acres} * 0.8$
 - o Adjusted flood prone area = 1.34 acres

Point of consideration: The specific conditions of mitigation need to be clarified and presented in a comprehensive manner that describes all of the requirements and expectations for each category and for each channel slope grouping. Specific statements regarding how the applicant should demonstrate that incision and bank instability will not occur during a project-specific monitoring period and how to measure the replacement or enhancement of water quality functions associated with the flood prone area need to be added to the document. According to the above calculations, an adjusted flood prone area of 1.34 acres is required over the valley length that was estimated to be 2,312 feet. It is unclear exactly how the “function” of this flood prone area will be judged. According to “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)”, Section 1.3.1. page 7. “These streams [Category 1] provide no habitat for well balanced communities of aquatic organisms defined within Ohio’s biological water quality criteria. Therefore, replacement of a defined stream channel is not a requirement for mitigation of Mitigation Category 1 streams.” Because channel reconstruction is not required, how can the conditions of vertical stability, bank stability, and a functioning flood prone area be met.

Step Four: Determine the requirements for mitigation category 1 according to “Ohio EPA Mitigation Spreadsheet Ver 5 2-14-11”

Ulman case study: As discussed previously, the large scale of surface coal mining projects causes the need for some special considerations. As pointed out above, the technology for determining aquatic life use designation may change during the course of the mining project; and therefore, historic data should be accepted (i.e. QHEI scores for PHWH streams, etc.) unless a scientific viable alternative is provided. Likewise, the method to determine and characterize hydrology and stream length is likely to change over the course of the project. For example, a total of 1,670 linear feet was authorized for impacts under the Ulman Surface Coal Mine Section 404 NW-21 permit for the Stream “A” upper stream valley. At the time of the delineation, the isolated and impacted segments were not included in the accounting; and therefore, cannot be easily accounted for in the spreadsheet.

Point of consideration: The revised HUCs should be readily available. The spreadsheet does not provide a way for Mitigation Category 1 and

Category 2 streams to receive habitat area credits if there is an improvement in aquatic habitat condition. Many re-mining projects reclaim and restore previously disturbed watersheds, and there should be a mechanism established so that the improvement in habitat condition can be documented.

Conceptually these guidelines do present a plausible method for mitigation but an important aspect of the development of these methods have been overlooked, the development of these methods as an applied technology. To legitimize these methods they should be tested cooperatively by Ohio EPA and the regulated industry in order to evolve them into a method that will meet their specific goal of measuring mitigation. (Kleski Environmental Consulting)

Comment 73: 3745-1-56(D)(4)(b) Where does the Agency define the difference between "stream restoration" and "stream enhancement"? (NEORS)

Comment 74: 3745-1-56(D)(4)(b) "...the majority of the credits (at least fifty-one per cent[sic]) must be generated through stream restoration or stream enhancement activities."

Comment: It is unclear why preservation is minimized as a viable mitigation option. (ODOT)

Comment 75: 3745-56-1(D)(4)(c) Preservation as Mitigation. For past DEO projects that would impact streams, which, under the proposed regulations may be classified in the Mitigation category 3, if OEPA determined that additional mitigation beyond restoration of the temporary impacts to streams was required, companies have been permitted to satisfy the mitigation requirement through stream preservation. The new stream mitigation rule expressly prohibits the use of stream preservation for impacts to Mitigation category 3 streams. Because impacts are temporary and the stream restoration protocol ensures no net loss of stream use, water quality function, and overall integrity, DEO requests OEPA consider amending the draft rules so that stream preservation would be an option for temporary stream impacts, regardless of mitigation category. (Dominion East Ohio)

Comment 76: 3745-1-56(D)(4)(c)(i) "The project is necessary to protect ecologically important..".

Comment: For clarity, please add the word "mitigation in front of the word "project". (ODOT)

Comment 77: (D)(4)(d): The Mitigation Rule imposes a higher mitigation burden than that required by Federal law. Federal law only requires a 1:1 mitigation ratio, with a potential for a higher requirement as determined on a case-by-case basis. The Mitigation Rule imposes a graduated step-up of mitigation requirements that culminate in a mandatory 3:1 mitigation credit ratio. These requirements are inconsistent with the Federal regulatory framework

that puts the onus on the agency to show on a case-by-case basis, with a documented record, that any mitigation in excess of a 1: 1 ratio is necessary. The Mitigation Rule should be changed to be consistent with Federal law. (Trade Association Coalition)

Comment 78: (D)(4)(e): The Mitigation Rule punishes a permit applicant for conducting mitigation outside the stream or immediate watershed where the impact occurred by requiring additional mitigation by significant percentages, including up to 40% additional mitigation credits. This additional mitigation goes above and beyond that required by Federal law and adds significant, and potentially prohibitive, costs to projects without justifiable environmental benefit. Ohio cannot afford to lose additional jobs from these projects where such mitigation is not necessary. (Trade Association Coalition)

Comment 79: 3745-1-56(D)(4)(e)(ii)(a) “Site specific conditions prevent mitigation either on-site or along the impacted stream.”
Comment: ODOT appreciates the flexibility introduced into rule here. Often site specific limitations greatly reduce the viability of stream mitigation onsite, and money is better spent on ecological improvements elsewhere instead of attempting to cram a mitigation site in an area that is obviously unacceptable for that use. (ODOT)

Comment 80: 3745-1-56(D)(4)(e)(iv) “[Comment: Mitigation projects outside the 8-digit watershed where the impacts occur will be allowed only rarely and in instance where it can be demonstrated that no other suitable mitigation is possible within the watershed.]”
Comment: Can OEPA provide further guidance on what criteria would need to be “demonstrated” for consideration to be given to mitigation outside the 8-digit HUC? (ODOT)

Comment 81: 3745-1-56(D)(4)(e)(iv) – This section regarding off-site stream mitigation adjustments includes the comment “Mitigation projects outside the 8-digit watershed where the impacts occur will be allowed only rarely and in instances where it can be demonstrated that no other suitable mitigation is possible within the watershed.” This seems to conflict with the conceptual plans for a state sponsored In-Lieu Fee program with tentatively proposed large service areas. (USACE)

Comment 82: 3745-1-56(E) “.if the applicant demonstrates that the methods area as protective as those described in “Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0).”
Comment: As Paul Anderson explained in the recent two day public information sessions regarding these rules, the new stream mitigation “Requirements” are an experiment. How does OEPA propose an applicant provide data to show an alternative stream mitigation method is “as

protective” as the experimental approach OEPA has published in draft for review? (ODOT)

Comment 83: (E): Ohio EPA allows a permit applicant to use a methodology other than the one prescribed in the Guidance only if the applicant makes an affirmative showing to the Director that the methodology used is equally protective as those described in the Guidance. The default position of this Mitigation Rule should not be that the Guidance is the sole correct methodology, but that the Guidance is one potentially methodology when considered in light of site-specific or case-by-case characteristics. Ohio EPA should revise this provision to allow the use of other methodologies. (Trade Association Coalition)

Comment 84: 3745-1-56(G) Post Project Monitoring. Similar to the preservation discussion above, OEPA has allowed an elevated preservation mitigation ratio in return for the option of foregoing on-site monitoring of stream restoration activities. The new rules appear to eliminate this possibility. DEO supports this remaining as an option for temporary impacts. It should be noted that, often, the United States Army Corps of Engineers conducts site visits to ensure that all temporarily impacted streams were restored using all BMPs specified in the Nationwide Permit. (Dominion East Ohio)

Comment 85: 3745-1-56(G) “The Director shall include requirements for post-project monitoring to document the proper installation, maintenance and performance of stream mitigation.”
Comment: Is it possible for the OEPA to publish an established list of baseline requirements? (ODOT)

Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)

General Comments

Methodology

Comment 86: The methodology is overly complex, and will result in widespread confusion on the part of the regulated community and regulators alike. The goal of the methodology should be to balance water quality protection goals with practical implementability in a risk-based framework. The reviewer believes that water quality can be protected while also allowing mitigation plans to be developed and evaluated with far less effort. There is a small risk that implementing a much simpler mitigation methodology could result in threats to water quality, but this risk is balanced by deployment of a methodology that can be readily understood and consistently applied by users with a wide range of background and training. Because the proposed methodology is unnecessarily difficult to understand and follow, it will not be properly understood or followed by applicants or regulatory staff. (Hull & Associates, Inc.)

- Comment 87:** The methodology presumes a large amount of training and experience among Ohio EPA staff in fields ranging from applied fluvial morphology to soil science to aquatic habitat. This training may not be necessary for an application that follows the mitigation calculations to the letter, but it is definitely necessary for evaluating the merit of proposals that depart slightly from the narrow track of the methodology or propose alternative data or approaches. There are numerous points in the methods where someone at Ohio EPA (it is never specified who) needs to make a judgment call with subjective elements – do I accept this alternative streamway target? Do I accept this alternate stream cross section? How should I weigh site-specific soil data submitted by the applicant? The Kaizen event conducted for the Section 401 program, in which Hull participated, firmly established that the most difficult and time consuming part of the review process is the technical review, as it tends to get stuck in repetitive ‘do-loops’ because of insufficient data from the applicant and the need for a very limited number of agency specialists to review a particular item in the application. It appears that the demand for internal experts will increase significantly as a result of this methodology. (Hull & Associates, Inc.)
- Comment 88:** The guidance document veers widely between highly specific, detailed technical requirements and statements to the effect that ‘this is not a rigid methodology’ leading this reviewer to wonder to what degree any given section should be followed to the letter. (Hull & Associates, Inc.)
- Comment 89:** The rule provides a snapshot of the multiplicity of existing stream labels. Streams in Ohio will now be classified by mitigation category, order, aquatic life use, beneficial use, scenic designations, antidegradation category, etc. (ODOT)
- Comment 90:** We have a suggestion for significantly simplifying the stream mitigation process. The Ohio EPA mitigation monitoring database, which has been compiled for many years, must be sufficient for Ohio EPA to be able to say what the average amount of stream replacement would be for a specific type of impact to a specific stream type. Assuming this is true, why not create an optional ‘no challenge’ mitigation category at a high mitigation ratio to cover uncertainty. For example, the agency could specify 5:1 for high quality streams, 4:1 for medium quality and 3:1 for low quality and allow applicants to go right to a bank (assuming stream mitigation banks are available). This would save a large proportion of applicants a great deal of time and effort to design a mitigation plan under this methodology and simultaneously protect the environment. (Hull & Associates, Inc.)
- Comment 91:** Ohio Adm.Code 3745-1-56(D) Stream mitigation requirements. The Utilities believe that the document "Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)" currently contains faulty assumptions and contradicts prior published documents by Ohio EPA, U.S. Army Corps of Engineers, and U.S. EPA. Thus, this document should not

be included in the Stream Mitigation Rules. Instead, the Utilities recommend that Ohio EPA work with the U.S. Army Corps of Engineers to develop a method similar to the Stream and Wetland Valuation Metric ("SWVM") developed by the U.S. Army Corps of Engineers in West Virginia. The SWVM provides a suitable metric for assessing and correlating impacts (debits) with mitigation (credits). Further, using this metric would eliminate duplication of efforts both on the part of the Agency and the applicants. The Utilities provide additional comments on the document "Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)" below.

Ohio Adm.Code 3745-1-56(E) Alternative stream mitigation methods. For the reasons outlined in these comments, the Utilities believe Ohio EPA should not reference the document entitled "Compensatory Mitigation Requirements for stream impacts in the State of Ohio (Revision 5.0)" in this provision.

Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0). The Utilities oppose incorporation of this document into Ohio EPA's regulations for the reason set forth in this section. Despite stakeholders' requests to simplify the initial 2004 stream mitigation rule, the revised stream mitigation requirements are more complicated than the initial 2004 protocol document. In fact, the Utilities made Ohio EPA aware of the problems with this methodology as early as November 2009.³¹ Thus, the Utilities were surprised that Ohio EPA waited to issue the stream mitigation rules over one year later with no changes to the underlying methodology.

The "Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio (Revision 5.0)" document introduces new definitions and complex methodology forms that are required for calculating the amount of mitigation required for each stream impacted. This document also contains contradictions with previously published information from Ohio EPA. Further, this document is also inconsistent with previously published stream mitigation rules and guidance documents published by U.S. EPA and the U.S. Army Corps of Engineers. The application of this document will require an increase in resources for both the applicant and Ohio EPA.

The foundation of the proposed "Compensatory Mitigation Requirements" is the concept of "self-forming channels" or "over-wide channel design." Over-wide channel design is a relatively new concept promoted exclusively by the Ohio Department of Natural Resources ("Ohio DNR") and The Ohio State University ("OSU"). Ohio DNR and OSU initially studied over-wide channel design for the management of agricultural drainage ditches.³² However, Ohio EPA and OSU have not sufficiently studied this design as a method of stream restoration or mitigation throughout the State. Although Ohio DNR and OSU have around thirty over-wide channel sites that they

are currently studying, Ohio DNR and OSU have not studied these channels with enough sufficiency and over a long enough period of time to implement this as a stream mitigation design protocol for the entire State.

The equations presented in the revised protocols are based on the replacement of a flood-prone area of a stream by excavating a flat, homogeneous, over-wide channel with the thought that this stream over time will self-create a narrow base-flow channel with meanders, riffles, and pools as the stream deems appropriate. The width of the channel, organic matter, and permeability are built into the equation to determine the amount of mitigation credit received. Thus, creating wider channels with high permeability organic matter will receive the greatest credit.

This new method is incompatible with Ohio EPA's previous statements. For example, originally, Ohio EPA stated that headwater streams provide an important and diverse community of macroinvertebrates.³³ Ohio EPA is now encouraging relocation of Class I & Class II headwater habitat streams in overwide channels on-site that will be at best sluggish, algae-laden channels without the substrate to support diverse macroinvertebrate communities. This is likely why the revised protocol does not require the creation of aquatic habitat and the monitoring of biota for Category 1 or Category 2 primary headwater habitat streams.

As another example, Riparian buffers can now be mowed and maintained to discourage growth of woody species. This method is another departure from U.S. Army Corps of Engineers and U.S. EPA's focus on the importance of woody vegetated buffers on headwater streams to support the stream continuum concept.

The dictated design for the mitigation worksheets utilizes a "one-size fits all" formula for all of Ohio based on a simple equation that uses (1) the drainage area of a stream and (2) whether the stream has a slope of less than 2% or greater than 2%. Using the drainage area and the slope percentage, the worksheets calculate the required width of the "restored" channel and credit is given based on adherence to this design. If stream restoration is not designed in this manner, no credit is given. Given the variations in stream types and ecoregions across the state, the Utilities do not believe that "a one-size fits all" method of stream restoration constitutes sound science.

Further, because this document directly conflicts with many of the principles presented in the U.S. EPA and U.S. Army Corps of Engineers mitigation documents and rules, the Utilities also believe that implementation of this document could require duplicative mitigation. For example, will the applicant need to provide two sets of detailed assessment forms - one to satisfy Ohio EPA and the other to satisfy U.S. Army Corps of Engineers and U.S. EPA? In many cases, an applicant will also need to

provide two mitigation projects - one to satisfy Ohio EPA's new focus on creating floodprone areas without the need of form or riparian vegetation and another to satisfy U.S. Army Corps of Engineers and U.S. EPA's focus on the importance of in-kind mitigation, functional lift, and riparian buffers.

Instead of moving forward with this proposed methods, Ohio EPA should work with the U.S. Army Corps of Engineers to develop a method similar to what the U.S. Army Corps of Engineers developed in West Virginia. The metric developed in West Virginia is suitable for assessing and correlating impacts (debits) with mitigation (credits) without dictating a specific stream restoration method. The U.S. Army Corps of Engineers has been developing HGM guidebooks for specific stream types and regions. It is also developing correlating indices that can be used to assess functions of impact at mitigation sites using a credit and debit system. HGM is a well accepted functional assessment method developed by a multi-federal agency team of experts. By working with the U.S. Army Corps of Engineers on a SWVM that correlates with (rather than contradicting) U.S. EPA Mitigation Requirements, Ohio EPA will reduce also reduce its own administrative burden. (Ohio Utility Group)

- Comment 92:** Throughout the document, greater flexibility should be given to allow for stream mitigation projects that will improve water quality such as AMD treatment. As written, the current proposed rule and requirements do not allow for such alternative “out of kind” water quality improvement projects to be pursued as mitigation. (ODOT)
- Comment 93:** Throughout onsite mitigation is apparently preferred however the limitations placed on mitigation projects by the “Requirements” precludes onsite mitigation on most ODOT projects therefore by default penalizing public works projects such as those that ODOT pursues. (ODOT)
- Comment 94:** It is questionable whether current OEPA 401 staff have the experience necessary to review and assess the appropriateness and applicability of presented mitigation plans and corresponding data, definitions, and calculations created under this proposed guidance. The complexity and site-specific knowledge necessary to adequately review applications may be a tremendous challenge for current 401 reviewer knowledge base. (ODOT)
- Comment 95:** On-site mitigation is preferred. The further off-site the mitigation is located from the impact site, the more mitigation is required. This seems to go against the Corps guidance to prefer off-site mitigation banks. (USACE)
- Comment 96:** During one of the presentations, the topic came up about Category 1 streams and replacing them with wetlands since they perform similar functions. According to our rules, this would be considered out-of-kind mitigation and would be the lowest option in the Mitigation Rule preference

hierarchy. This is a tough topic since many areas that were historically wetlands have been ditched and drained so restoring wetlands in place of the stream (farm ditch) does make sense as far as restoring historical conditions. If this stream rule were to be passed, I think this may be a topic to discuss at a Corps only session before a statewide meeting. I think it will be important to treat these situations consistently throughout the state as much as possible. (USACE)

Mitigation Categories

Comment 97: Ohio EPA is proposing that 4 mitigation categories established in rule are based upon the system of aquatic life use designations (in other rules). The Division of Soil and Water recommends that the word biological be added when explaining the resource value of each mitigation category as shown below in redline. ODNR feels strongly that the resource value of the ephemeral channels and other waterways considered to be of low biological resource value are important as potential physical and chemical resources for providing floodplain storage and nutrient assimilation.

- Mitigation category 1 - Ephemeral and other low biological resource value streams
- Mitigation category 2 - Intermittent streams with low biological resource value
- Mitigation category 3 - Permanent streams with typical biological resource value
- Mitigation category 4 - Permanent streams with high biological resource value (ODNR)

Comment 98: How will the proposed stream mitigation rule changes align with the US Army Corps of Engineer's mitigation requirements? For example, under the proposed guidelines, Mitigation Category 1 streams only require the replacement of the flood prone area, not the "replacement of a defined stream channel." If this type of mitigation is completed for a project, it seems unlikely to satisfy the USACE 2008 Final Compensatory Mitigation Rule that requires a minimum of 1 to 1 ratio for mitigation. (Civil and Environmental Consultants, Inc.)

Flood Prone Area

Comment 99: The methodology redefines the area regulated by Ohio EPA to include the flood-prone area. One may make a solid case that protecting and replacing flood prone area is important for water quality, but Ohio EPA does not have authority to regulate activities above the ordinary high water mark. (Hull & Associates, Inc.)

Debits/Credits

Comment 100: Calculation of Debits/Credits

EPA Comment - In general, the process for calculating debits and credits is based on physical properties and does not fully account for the other functions of streams to include hydrologic, physiochemical, and biological. Further, this method has not been fully evaluated under the revised 5.0 version. Additionally, EPA recommends that factors for both cumulative impacts and temporal loss be incorporated into the methodology. These sample projects also only mitigated for impacts less than 1000 feet. This method was not evaluated on larger, more complex projects that impact entire headwater tributaries. (U.S. EPA, Region 5)

Comment 101: Calculation of stream mitigation credits and debits in the proposed rule are highly dependent on identification of the bankfull floodplain to determine the maximum bankfull depth. Identification of the bankfull floodplain can vary widely among even experienced field observers (Roper et al. 2008). Identification of the bankfull floodplain, however, is a critical component of determining in-stream habitat area and floodplain area, upon which mitigation requirements under the proposed rule are largely based. Minor errors in measurement of bankfull depth can result in errors in bankfull width and significant errors in flood prone width, especially in unconfined valley types (Roper et al. 2008). These errors, when multiplied by stream length, can result in substantial differences in the overall habitat and flood prone areas calculated on the debits and credits side of the mitigation equation. Applicants, therefore, will have a significant interest in underestimating elevation of the bankfull floodplain of impacted streams (debits) and overestimating the elevation of the bankfull floodplain of mitigation streams (credits). Disagreements by OEPA regulatory staff and project proponents are likely given the importance of the bankfull elevation in determining mitigation requirements, and successful resolution of disagreements will be highly difficult considering the wide variation in identifying the bankfull floodplain, even by trained field observers. Although the Mitigation Document also gives an equation to determine maximum bankfull depth based on drainage area in lieu of field identification of bankfull depth, there is no discussion of how this equation was developed and why it is appropriate at such a large geographic scale (i.e., all of Ohio). We question the usefulness of such a broad calculation, and believe a thorough discussion of the data used to develop the equation is warranted.

Although we agree that appropriate active-channel and flood prone width is critical in ensuring success of stream restoration, we do not believe that flood prone area and habitat (active channel) area should be the controlling measurement from which calculations of mitigation credits and debits are based. Common observer error results in too great a variation in the resulting mitigation credits and debits, and without rigorous analysis, we

believe a State-wide equation to determine bankfull depth based on drainage area would be unreliable. We believe that channel length, a commonly used measure to quantify streams, and one that is consistently measured among trained observers (Roper et al. 2008), should also be incorporated into the mitigation debit and credit outcome to help minimize the potential influence of inconsistent calculation of bankfull depth. (U.S. FWS)

Comment 102: In general, we believe that the debit and credit ratios outlined in the Mitigation Document will not result in "no net loss of existing stream uses, water quality functions of the stream, or overall integrity of the aquatic resource" because the debit ratios are too low (especially for Category 1 and 2 streams) and the credit ratios are too high. For example, mitigation requirements for a project that impacts 1000 feet of ephemeral and intermittent stream (Mitigation category 1 and 2 streams) could be satisfied simply by preserving 1000 feet of equal-quality stream in the same 12-digit watershed. This would effectively result in the net loss of 1000 feet of ephemeral and intermittent stream. For restoration projects, a permittee can essentially "double dip" when calculating mitigation credits, by adding the improvement in the stream to the resulting condition. For instance, a restoration project that adds 5 credits of adjusted acreage improvement to a degraded stream that has an existing adjusted acreage value of 5, would receive 15 mitigation credits (5 acres improvement + 10 acres final condition), when the actual net increase in stream functions and services is only 5 acres. We do not believe that additional credit should be given for preserving streams that have been enhanced or restored. The Federal Mitigation Rule requires long-term protection of all mitigation sites, and does not suggest giving extra mitigation credit for doing so. We believe long-term protection should be a requirement of all mitigation projects, not an optional step that results in substantial additional mitigation credit.

We recommend using similar debit and credit ratios used in State wetland permitting. Wetland debit ratios range from 1.5:1 to 3:1 (never less than 1.5:1). Wetland credit ratios never allow greater than one credit of mitigation to be received for one acre of restoration. In addition, lower credit ratios (1:2 and lower) are allocated for enhancement and preservation of Ohio wetlands. Because the success of compensatory stream mitigation is even less certain than wetland mitigation, we recommend debit and credit ratios be further adjusted to account for this additional uncertainty. We believe that the stream mitigation debit and credit ratios are a fatal flaw in the rule and Mitigation Document and will contribute to significant net loss of functions and services of streams, and existing stream uses. (U.S. FWS)

Comment 103: Riparian Buffers Credit

EPA Comment - To be consistent with the 2008 Mitigation Rule, EPA recommends buffers if required be granted some credit. Functioning riparian buffers are an important part of a stream system. EPA believes it is acceptable to grant credit for riparian buffers as a part of a mitigation plan if it is tied to the functionality of the stream (i.e., the stream has access to the buffer and planting plans are incorporated). Specifically the 2008 Mitigation Rule (40 C.F.R. 230.93(i)) states that "if buffers are required by the district engineer as part of the compensatory mitigation project the compensatory mitigation credit will be provided for those buffers." (U.S. EPA, Region 5)

Comment 104: Overall, CEC agrees with the strong need for a "tool" such as this for a clear, definitive method of calculating credits/debits for potential impacts and mitigation to streams and wetlands. This revision of Ohio's debiting/crediting calculator is the soundest version produced thus far. Some clear guidance on Mitigation Categories and less room for judgment calls on both the OEPA's end, as well as the permit applicant/consultant regarding Mitigation Categories will allow this tool to be a very effective and efficient method for fairly calculating debits and credits. There are too many places in this document and in the spreadsheet provided online that allow for judgment calls and permissions before credits and debits are allowed and calculated. For example, the spreadsheet does not calculate the credits for preservation of Class II PWHW for streams that discharge into a WWH – Superior High Quality. It only supplies the user with the message that, "Preservation-only credits applicable only with permission." If permission is received, there should be a way to display the available credits. One statement saying, "All credits and debits are only final upon OEPA's review and approval" should suffice. The remainder of the guidance and the spreadsheet should proceed as if all data being entered has been reviewed and approved. (Civil and Environmental Consultants, Inc.)

Comment 105: The proposed stream mitigation rule changes state that preservation of Mitigation Category 1 and 2 streams would only be allowed under certain conditions, including "the protection of ecologically important downstream uses." What would the OEPA define as an ecologically important downstream use? How far downstream could the ecologically important use be from the Mitigation Category 1 or 2 streams in order to obtain preservation credit? (Civil and Environmental Consultants, Inc.)

Biological Monitoring

Comment 106: The rule and Mitigation Document contain little emphasis on the biotic component of streams in demonstrating mitigation success. As currently proposed, success of stream restoration is based primarily on habitat assessments (e.g., cross-sectional surveys, QHEI), based on the

assumption that these measurements are an indirect measurement of biotic integrity. However, we are not aware of a body of research correlating QHEI and stream morphological measurements with biotic integrity in restored streams in Ohio. Accordingly, we do not believe that morphometric surveys and QHEI evaluations should be used as a substitute for direct measures of biota. We believe that appropriate biological monitoring (e .g., IBI, ICI, HMFEI) should be required for Category 2 and 3 stream restorations and enhancements. Appropriate biological success criteria should be a part of Category 2 and 3 stream restoration and enhancement plans. (U.S. FWS)

Antidegradation Provisions

Comment 107: The proposed stream mitigation rule changes state that stream antidegradation provisions include the protection of existing and designated beneficial uses of streams for not only the direct area of impact, but also “an analysis of potential impacts on both upstream and downstream water quality.” To what extent must an applicant investigate upstream and downstream water quality beyond the direct area of impact? (Civil and Environmental Consultants, Inc.)

Comment 108: Page 3- States that the mitigation protocol procedures do not exempt "any application, regardless of the degree of mitigation proposed, from the anti-degradation requirements found in OAC 3745-32 or other applicable rules regarding avoidance, minimization or the protection of existing uses". This seems contrary to other language in the protocol that says that some projects will be exempt from a full anti-deg review. (ODNR)

Table of Contents

Comment 109: This document should include a glossary as there are numerous technical terms. (Hull & Associates, Inc.)

Comment 110: It would be useful to have a page with all equations with page references. (Hull & Associates, Inc.)

Definitions

Comment 111: The definition of stream included here would appear to include a concrete-lined roadside ditch, which the reviewer feels is not appropriate. (Hull & Associates, Inc.)

Section 1

Comment 112: CMRSISOv5 Section 1; Page 1; first paragraph; “Mitigation projects are required in order to ensure that there is no net loss of existing stream use.”

Comment: The concept or requirement for “no net loss” of streams is not in federal regulation or executive order. OEPA routinely currently allows the net loss of streams. Every Nationwide Permit that extends a culvert or installs a new culvert, and that does not require mitigation, essentially results in a loss of stream “use”. To say that mitigation is required for the mistaken concept of “no net loss of streams” is misguided and uninformed. (ODOT)

Comment 113: CMRSISOv5 Section 1; Page 1; footnote; and throughout this document
Comment: To provide clarity and consistency, this draft document should be updated to only use the terminology OEPA intends to use moving forward, i.e. “State Water Quality Permit” and away from the terms 401 Water Quality Certification. (ODOT)

Comment 114: CMRSISOv5 Section 1; Page 2; Figure 1.
Comment: What is the significance of the solid vs. dashed lines? (ODOT)

Comment 115: Section 1. – On page 3, final paragraph, the document states “It should be noted that these procedures do not exempt any application, regardless of the degree of mitigation proposed, from the anti-degradation requirements found in OAC Chapter 3745-32 or other applicable rules regarding avoidance, minimization, or the protection of existing uses for Waters of the State as required by ORC Chapter 6111.” This appears to conflict with the comment in the draft Stream Mitigation Rule in 3745-1-56 (D)(3), which indicates that applicants who meet mitigation requirements are exempted from certain antidegradation requirements as described in rule 3745-32-04. (USACE)

Comment 116: Section 1.1. What is a Stream?

EPA Comment – This section references important definitions, however, there is no linkage of why “ordinary high water mark” is an important term except that it is defined in Corps regulations (33 C.F.R. 328.3). EPA recommends clarifying why this is an important term (i.e., identifying the lateral limits of the stream). (U.S. EPA, Region 5)

Comment 117: Page 4- Section 1.1.2- Please give an example of a situation for which Ohio EPA thinks that the Army Corps may require a 401 water quality certification for placement of fill into a watercourse which do not meet the definition of a stream. (ODNR)

Comment 118: Section 1.1.2 Watercourses Which are Not Streams-This section is saying that the Corps may require permits to fill features (road ditches, agricultural grass waterways) that do not meet the State definition of a stream and that requiring mitigation for impacts to these features may not be appropriate under this protocol. How often has this situation arisen? Likewise the state

may require permits to fill features that the Corps would not, i.e. isolated waters. (USACE)

Comment 119: Section 1.1.2. Watercourses Which Are Not Streams

EPA Comment – The wording of this section could be misleading as streams can be routed through roadside ditches and those roadside ditches may be considered wetlands in some circumstances. It is recommended that the scope of this document only focus on streams. EPA recommends the following wording changes.

It is recognized that there are some types of watercourses which do not meet the definition of a stream. These types of waterways are often highly modified and maintained water conveyances. Care should be taken to ensure that the watercourse in question has been thoroughly described and evaluated against the definition of a stream as well as the aquatic life use designations found in OAC Rule 3745-1-07 prior to determining that compensatory mitigation-under this methodology is appropriate. It may be possible that the Corps of Engineers will determine that an individual Section 404 Permit and Section 401 Water Quality certification is required for the placement of fill or dredge material into watercourses which do not meet the definition of a stream as described in this document. In these cases mitigation may be required for impacts to wetlands or other waters will be dealt with on a case-by-case basis and the methodology for determining mitigation for those impacts are not covered in this document. However, it is essential that measures are taken in all circumstances to protect downstream water quality and aquatic life uses. (U.S. EPA, Region 5)

Comment 120: CMRSISOv5 Section 1.2; Page 4; second paragraph; typo;
Comment: “Examples of activities..., but is are not limited to...” (ODOT)

Comment 121: Under Section 1.2, suggest adding Regulatory Branch, Ohio Section Chief to the addresses provided. (USACE)

Comment 122: Also under Section 1.2, Louisville district should be removed except for projects on the Ohio River. (USACE)

Comment 123: Page 5- Section 1.2. The reference to the Louisville District should be removed since Huntington covers the Little and Great Miami River Basins. (ODNR)

Comment 124: Section 1.2. – On page 5, the contact information for the Corps of Engineers District Offices with jurisdiction in Ohio should be updated. The Louisville District has the Ohio River, and the contact number is (502)315-6733. The Huntington District has the Muskingum, Hocking, Scioto and

Little and Great Miami River basins, and the contact number is (304)399-5210. The Pittsburgh District contact number is (412)395-7155. (USACE)

Comment 125: CMRSISOv5 Section 1.2; Page 6; top (first) paragraph on the page; “To minimize delays and objections during the permit and Water Quality Certification review process, applicants are encouraged to seek the advice of resource and regulatory agencies during the planning and design of mitigation plans.

Comment: With all due respect, the OEPA water quality certification office does not have any experience designing, contracting, and constructing mitigation projects. (ODOT)

Comment 126: Has the implementation of how applicants conduct a use attainability analysis changed? It would be beneficial to clarify what analysis is required by applicants. (ODNR)

Comment 127: Under Section 1.3.1, Mitigation Category 1 does not require replacement of a defined stream channel for mitigation. This may conflict with Corps requirements. (USACE)

Comment 128: CMRSISOv5 Section 1.3.1.; Page 7; last sentence; “replacement of a defined stream channel is not a requirement for mitigation of Mitigation Category 1 streams.”

Comment: This statement appears to be contradicted later and no further guidance is apparently provided to clarify this statement. Is this suggesting natural channel design through extra wide channel construction? (ODOT)

Comment 129: Section 1.3.1. – On page 7, in the discussion regarding requirements for stream mitigation for Mitigation Category 1 streams the document states “These streams provide no habitat for well balanced communities of aquatic organisms defined within Ohio’s biological water quality criteria. Therefore, replacement of a defined stream channel is not a requirement for mitigation of Mitigation Category 1 streams.” If the Mitigation Category 1 stream is a water of the United States, in accordance with the federal mitigation rule this would be considered out-of-kind mitigation and would be a loss of waters of the United States. In 33 CFR Part 332.2 “out-of-kind” is defined as “a resource of a different structural and functional type from the impacted resource.” (USACE)

Comment 130: 1.3.1 Mitigation Category 1 [OAC 3745-1-56-(B)(1)] "These streams provide no habitat for well balanced communities of aquatic organisms defined within Ohio's biological water quality criteria. Therefore the replacement-of a defined stream channel is not required for the mitigation of a Category 1 stream."

EPA Comment - Class I streams provide habitat for some adult stages of vertebrates (i.e., salamanders) which are dependent on the connecting

downstream waters for reproduction and sustenance for portions of their life cycle. Further the proposed mitigation rule was evaluated against smaller projects and did not evaluate large scale impacts on ephemeral streams and elimination of entire tributary systems including the ephemeral reaches. (U.S. EPA, Region 5)

Comment 131: Section 1.3.1 Content: "Therefore, replacement of a defined stream channel is not a requirement for mitigation of Mitigation Category 1 streams". Comment: The spreadsheet provided from the OEPA calculates the impact to Class I primary headwater habitat channels as a debit. This should automatically equal a debit of 0.0 acres. (Civil and Environmental Consultants, Inc.)

Comment 132: Page 8- Section 1.3.2- Category 2- Under what conditions may specific habitat targets be required for LRW-AMD streams and MWH streams? (ODNR)

Comment 133: 1.3.2 Mitigation Category 2 [OAC 3745-1-56(B)(2)] "Aquatic life uses listed under Mitigation Category 2 are also considered to be Limited Quality Waters in the antidegradation rule. However, unlike Mitigation Category 1 uses, streams within Mitigation Category 2 do have definable aquatic life expectations and/or can be considered to have an aquatic life restoration potential. This aquatic life potential is lower than the expectations for Mitigation Category 3 streams, and is limited based upon either historic modifications to the stream that are considered to be permanent or of long duration (LRW and MWH uses), or because of natural conditions (Class II PHWH). Therefore, the mitigation goals for streams in Mitigation Category 2 relate both to their influence on downstream water quality as well as expectations (albeit lowered) for aquatic life community integrity."

EPA Comment - The role of intermittent streams in a headwater system is paramount. The classification "limited" is misleading and undervalues the role of small headwater streams in the watershed. Aquatic life potential is important in intermittent streams as they may provide rearing areas for salamanders and are utilized/inhabited by macro invertebrates despite periodic flow regimes. (U.S. EPA, Region 5)

Comment 134: Mitigation Category 2 requires replacement of a channel but habitat targets are not required just replacement of floodprone and vertically stable channel. (USACE)

Comment 135: CMRSISOv5 Section 1.3.3. (d); Page 8; typo;
Comment: adjust margin to match preceding lettered items. (ODOT)

Comment 136: Page 8- Section 1.3.3- Category 3- Under what conditions may specific habitat targets not be required for General High Quality Water streams? (ODNR)

Comment 137: Section 1.3.3 Content: "Mitigation Category 3 includes the following aquatic life uses: (a) Warmwater habitat where the stream is categorized as general high quality water in of rule 3745-1-05 of the Administrative Code...." and Section 1.3.4 content, "Mitigation Category 4 includes the following aquatic life uses: (a) Warmwater habitat (WWH), where the stream is categorized superior high quality water, outstanding state water, or outstanding national resource water in rule 3745-1-05 of the Administrative Code; (b) Coldwater habitat (CWH) – inland trout streams where the stream is categorized superior high quality water, outstanding state water, or outstanding national resource water in of rule 3745-1-05 of the Administrative Code; (c) Coldwater habitat (CWH) – native fauna.....".
Comment: There is an overlap in listing and vague definitions/classifications of the stream in the Administrative Code with inconclusive prerequisites to determine classification. A complete updated listing of all streams with designation should be provided or a reduced criteria to avoid the same classification of stream (WWH) being included in different Mitigation Categories. (Civil and Environmental Consultants, Inc.)

Comment 138: 1.3.3 Mitigation Category 3 [OAC 3745-1-56(B)(3)] "Specific outcomes with respect to attainment of biological criteria mayor may not be applicable for individual stream mitigation projects, dependent upon the site setting and conditions of the watershed".

EPA Comment - This comment seems out of place in the Mitigation Category 3 section. As this category of stream would include the highest classification of primary headwaters habitat, seasonal salmonid habitat, cold and warm water habitat all of which have valuable aquatic life uses. (U.S. EPA, Region 5)

Comment 139: In Section 1.3.4, where is the list of CWH-Native fauna streams located? (USACE)

Comment 140: 1.3.4 Mitigation Category 4 [OAC 3725-1-56 (B)(4)] "Streams with aquatic life uses that fall within Mitigation Category 4 include waters found to possess exceptional ecological characteristics typified by a highly diverse or specially adapted aquatic biological community or as providing habitat to Ohio or federal endangered or declining species. These streams also include waters classified as Outstanding State Waters based upon exceptional recreational values that merit a high degree of protection. Streams designated within the uses covered by Mitigation Category 4 represent the best of the best with respect to streams in Ohio, and merit special protection under the Water Quality Standards. Therefore, mitigation goals for streams with uses listed in Mitigation Category 4 must be sufficient to both maintain the potential to support these uses and to demonstrate that the use continues to be supported following the completion of activities governed under the 401 Water Quality Certification. Mitigation standards, performance criteria, and monitoring requirements for

mitigation projects associated with these streams must be sufficiently robust to meet these goals with respect to flood prone area, habitat quality, riparian vegetation, and biological community integrity."

EPA Comment - This is in contradiction to the Federal Mitigation Rule that focuses on a sequence of avoidance, minimization, and then compensation. The principles of avoidance and minimization must be considered when reviewing impacts to waters of the U.S., especially those possessing exceptional ecological characteristics. Further, EPA would expect there to be specific measures added to protect the highest quality of streams in Ohio. (U.S. EPA, Region 5)

Comment 141: For all of the mitigation categories, this protocol does limit Corps ability to place whatever conditions deemed appropriate on the 404 permit. (USACE)

Comment 142: Page 9- Section 1.3.5- Changes to Assignment of Mitigation Category - What data will be required for Ohio EPA to raise the mitigation category above the current use designation. (ODNR)

Comment 143: Page 9- Section 1.3.5- Changes to Assignment of Mitigation Category- DSWR is concerned about the potential for an applicant to downgrade to a lower mitigation category based on the condition of a specific reach of stream. What if the applicant is the one responsible for causing the degradation of the stream reach on their property? The draft language may incite some landowners to abuse streams to minimize future mitigation. (ODNR)

Comment 144: Section 1.3.5 Content "Ohio EPA will raise the mitigation category assignment of a stream segment in cases where it is determined that the level of ecological integrity within an impacted reach is higher than implied by a current use designation". Comment: This gives the individual calculating the debits no true idea of what the final debit will be. This data needs established and leaving every situation up to a case by case basis provides too much room for interpretation and no definitive answer that an applicant for a permit can use to calculate debits. (Civil and Environmental Consultants, Inc.)

Comment 145: Section 1.3.5 Changes to Assignment of Mitigation Category

EPA Comment - EPA recommends addition of language which could specifically prohibit the lowering of a stream category when the changes in the stream were due to unauthorized activities. (U.S. EPA, Region 5)

Comment 146: Section 1.4- Determinations Regarding Protection of Downstream Uses- This section appears to also discuss upstream impacts, so should the title of the section be reworded to reflect this? Also, it is unclear how applicants

are to satisfy the Ohio EPA that they are protecting up or downstream uses. The storm water permit is often cited at least by applicants that if they comply with the minimum requirements of the permit, downstream uses will be protected. I suggest the section should describe several scenarios when the minimum requirements of the storm water permit may not be adequate to protect downstream uses. (USACE)

Comment 147: CMRSISOv5 Section 1.4.; Page 10; first paragraph; “In addition, site alterations resulting in changes to the infiltration of groundwater or runoff characteristics may also affect hydrologic regimes critical for the support of sensitive ecological conditions (e.g. Class III PHWH or CWH uses). The potential for these types of impacts should be thoroughly evaluated and addressed during the 401 Water quality Certification process.”

Comment: Impacts to land adjacent to waters of the state are currently outside the jurisdiction of the OEPA under Section 401 of the Clean Water Act dredge and fill permits. Impacts to infiltration rates and runoff are outside the jurisdiction of Section 401. The inclusion of these concepts here suggests stormwater management principles that should be addressed under stormwater rule making. Apparently no effort has been made by the authors to develop these rules in concert with existing or proposed stormwater regulations. (ODOT)

Comment 148: CMRSISOv5 Section 1.4.1.; Page 11

Comment: This section describes the upstream and downstream stream reaches that should be assessed for potential indirect degradation beyond the direct impact footprint being permitting under Section 401. This section of the CMRSISOv5 is very vague on what constitutes impact to these areas. Further, how detailed the review required should be and what specifically is needed to be assessed if no dredge or fill is being placed in these areas beyond the direct area of impact is currently not provided leaving room for misinterpretation. (ODOT)

Comment 149: Page 11- Section 1.4.1-Downstream Uses- General Guidelines

a. ODNR understands the concept of the need to protect downstream resources but is concerned that the language in this section is confusing. For example, in paragraph 1) there is no spatial limit to the extent that an applicant must assess for downstream impacts to a first or second order stream. Paragraph 2) limits Category 1 and 2 streams and Drainage Use designated streams of the 3rd order or higher to an assessment 2000 feet downstream of a proposed impact. Paragraph 3) indicates that designated streams in Mitigation Categories 3 and 4 with drainage areas greater than 1 mile have the same burden of proof as for headwater, undesignated or lower quality waters in Mitigation Category 1 or 2.

b. We understand the complexity and difficulty associated with drafting this type of guidance; however to the average reader, we believe the guidance is complicated, lacks clarity and should be re-evaluated.

c. The introductory paragraph also discusses evaluating potential upstream impacts. More clarification is needed about what Ohio EPA thinks needs to be evaluated. What kind of upstream impacts are anticipated?

d. Page II-Footnote <http://soils.usda.gov/survey/online-surveys/ohio/>. This hyperlink does not provide the NRCS stream mapping resource to help people identify if streams are first, second, third or fourth order. Please provide another reference. (ODNR)

Comment 150: Section 1.4.1 Downstream Use - General Guidelines.

EPA Comment - EPA understands the need for the regulated community to have a framework on how much of the downstream area to evaluate and consider. However, as stated it is important to consider the project and site on a case by case evaluation in regards to- type, size, duration of the impact as well as the quality and type of stream impacted. In some instances consideration of a much larger downstream affect area may be warranted so that the reach and scale of impact is assessed. Additionally, cumulative effects within the watershed may warrant a larger scope for examining downstream effects as the impact may be the cause or it may contribute to a violation of state water quality standards. (U.S. EPA, Region 5)

Comment 151: Section 1.4.1

- First sentence: change to '401 Water Quality Certifications:'
- The stream segments described in 1) could be considerably longer than the 2000 feet upstream and downstream described in 2).
- The guidance states that 'These are not rigid requirements' in referring to the areas that must be examined for impacts to downstream uses. The guidance also does not specify what documentation must be submitted by applicants to satisfy the Section 401 reviewer's needs. In the reviewer's experience, this type of guideline will be interpreted very differently by different reviewers leading to delays and inconsistencies in permit decisions. (Hull & Associates, Inc.)

Comment 152: The soil surveys provided with the link at the bottom of page 11 does not include the soil survey maps. I believe the maps showing the streams are only available in the hard copies of the soil surveys. (USACE)

Section 2

Comment 153: CMRSISOv5 Section 2; Page 12; first paragraph; first sentence; "Stream mitigation projects are required for the temporary or permanent lowering of water quality related to impacts authorized under Section 404 and 401 of the Clean Water Act and State Water Quality Certifications issued in accordance with OAC Chapter 3745-32."

Comment: Currently not all stream impacts authorized under 404/401 are mitigated. Every year, the Nationwide Permit Program authorizes

thousands of feet of stream impact that are never mitigated and are not required to be mitigated. This section also suggests that it is the intent of OEPA to create a separate water quality permit process beyond the 404/401 process. The need and reasoning for creating additional levels of surface water permitting is not obvious to the regulated community. (ODOT)

Comment 154: CMRSISOv5 Section 2; Page 12; first paragraph; last sentence; typo; Comment: adjust the text “Quality Standards” to the line above after “Water”. (ODOT)

Comment 155: CMRSISOv5 Section 2.1; Page 12; Comment: Will OEPA provide further guidance on how this proposed transition to acreage measurements for stream impacts in lieu of linear feet will be reflected in the current and future Nationwide Permit thresholds? Currently NWP are limited to impact thresholds based on acreage of wetland and linear feet of stream. Establishing stream acreage impact limitations for 401 certifications of the NWP will potentially cause these streamlined permits to be less nimble, require additional information to be gathered and reported, and add confusion to the surface water permitting process. (ODOT)

Comment 156: CMRSISOv5 Section 2.2; Page 14; “Stream mitigation projects shall be designed to minimize the deviation of the stream from its natural condition.” Comment: This “general statement” regarding the design objective of stream mitigation could be reworded in a more realistic and positive light. For example: “ Stream mitigation reaches shall be designed and constructed to maximize the stream’s potential to achieve natural functions and values within the confines of existing up and downstream conditions.” (ODOT)

Comment 157: CMRSISOv5 Section 2.2; Page 14; last paragraph; last sentence; “To the extent possible, clarification has been provided in Sections 4, 5, and 6 to clarify how to..” Comment: The redundant use of the words “clarification” and “clarify” in this short sentence seems redundant. (ODOT)

Comment 158: 2.2 Mitigation Design Goals and Targets, Table 1

EPA Comment - Stream categories 2, 3 and 4 should incorporate habitat and ecological integrity. The aquatic habitats have not been addressed in intermittent and some perennial streams and attainment functions. It is not appropriate for mitigation to fail to account for these functions. Further, this mitigation method downplays the importance of ephemeral streams (Category 1) to downstream ecosystems and should add form to the goals.

EPA believes that intermittent streams (Mitigation Category 2) provide a valuable ecological biological function and must provide the appropriate habitat for biota. The parameters to ensure a project meets its goals should include chemical, biological, and physical measures.

EPA also finds it contrary to the 2008 Mitigation Rule that mitigation for Category 1 streams would not include channel form or substrate as a part of the design criteria. Likewise, the substrate should also be included in the minimum design criteria. (U.S. EPA, Region 5)

Comment 159: CMRSISOv5 Table 2; Page 15;

Comment: This table illustrates a potentially complex and confusing issue. For linear transportation projects that have multiple short stream crossings involving a variety of quality of streams, the resulting debit/credit sheet will be incredibly complex. Currently the stream mitigation process ODOT pursues involves soliciting of potential mitigation projects from numerous stakeholders and nearby adjacent landowners. The resulting variety and scale of mitigation types (categories, ratios, location % penalties, and types of areas) would create a complex balance sheet of impacts and required mitigation that would be very difficult if not impossible to efficiently identify, model and pursue on the landscape. This would create an enormous challenge for ODOT seeking out possible mitigation solutions on the landscape from willing sellers in a reasonable time and cost. This will also present a tremendous technical challenge for 401 reviewers to understand, assess, and approve, thereby creating a giant bottle neck to project development. (ODOT)

Comment 160: CMRSISOv5 Table 2; Page 15; row labeled "Riparian".

Comment: Woody vegetation within the roadway right of way can become a safety hazard to the public either through collisions with vehicles that have left the roadway or by trees falling on to the roadway. Exemptions to the establishment of certain sizes of woody vegetation, for all stream mitigation categories, should be established for ODOT stream relocations within the right of way. (ODOT)

Comment 161: Table 2- Mitigation Category 2- adds the requirement that the applicant protect the downstream use via reference reach. Please clarify. (ODNR)

Comment 162: Table 2- Channel Form is required for Category 2 streams and as defined implies that the cross sectional dimensions, and meander pattern have to be designed. If a Category 2 (which includes Class 2 Headwaters) waterway is functioning like a wetland it would be incorrect to impose a meander pattern. Twenty-two of the 54 Stream Mitigation reaches that ODNR investigated had wetland vegetation, even though they were designed with meanders. Many of the projects became linear meandering wetlands. Please see our report at <http://www.dnr.state.oh.us/portals12/water/streammorphology/Assessment>

of Stream Restoration.pdf. Also photos with site summaries are available on the ODNR Soil and Water Web Page. (ODNR)

Comment 163: Table 2- Vertical Stability- How must the applicant demonstrate that channel is vertically stable? (ODNR)

Comment 164: Table 2- Floodplain Soils- 'Why is the requirement for soils for Category 3 and 4 based on a reference reach condition? Does Ohio EPA give guidance on how to determine the soils during a reference reach survey? (ODNR)

Comment 165: Table 2- Riparian - Requires "the consideration of Category 3 criteria for sensitive downstream uses" for Category 2 stream impacts/restoration. For impacts to Clover Groff Run (a modified warmwater habitat and hence a Category 2 stream) which is upstream of the Big Darby, would the applicant have to consider planting woody vegetation "unless natural condition is other"? Does this acknowledge that some parts of Ohio like the Darby Plains Prairie should be replanted with prairie species for at least the 6 large original landscape prairies that existed prior to the settlement of Ohio as identified below? (ODNR)

Region	Prairie Region Name
A	Lake Plains Prairie Region
B	Central Till Plain Prairie Region
C	Southern Till Plain Prairie Region
D	Southwest Ohio Prairie Region
E	Lexington Plain Prairie Region
F	Unglaciated Appalachian Plateau Prairie Region
G	Glaciated Appalachian Plateau Prairie Region

Ohio Prairie Area	Large Original Landscape Prairies of Presettlement Ohio
1	Oak Openings Prairies
2	Wood County Prairies
3	Castalia-Sandusky Bay Prairies
4	Firelands Prairie
5	Sandusky Plains Prairie
6	Darby Plains Prairie

Note: The specific prairie borders above are only generalizations. The marked prairies represent only approximate locations and sizes. Numerous original smaller prairies throughout all regions of the state are not shown here. These aren't Ohio's only prairies or prairie areas, just the biggest.

Comment 166: Table 2- Biotic Metric- Please clarify /provide examples of what features may be required under Category 2 mitigation? The language says "Features to support the greater of the current biological index score or applicable biocriteria". Also clarify/provide examples for Category 4 which states "Plus preserve any special conditions and higher antidegradation tier attributes". (ODNR)

Comment 167: Table 2-TMDL row states "Design should address any applicable problems identified in the TMDL report". This should be expanded upon with a few examples such as if flow alteration is a cause of impairment, how mitigation plans could address this problem. (USACE)

Comment 168: Table 2- TMDL- How can design features of a stream relocation or restoration take into account "any applicable problems identified in a TMDL report? If the Wabash TMDL says that they need to reduce phosphorus by 75% does this mean that each stream needs to reduce its phosphorus loading by 75%? (ODNR)

Comment 169: CMRSISOv5 Page 16; top of the page; "...information provided in Sections c and e below.."
Comment: No Sections "c" or "e" follow this language. Please clarify. (ODOT)

Comment 170: How should an applicant approach a project that has multiple stream impacts that have both Category 1 and 2 streams. Will the applicant need to provide a demonstration for the important social, economic and environmental benefits of impacting only the Category 2 streams since the Category 1 streams are exempt from a full anti-deg review? (ODNR)

Comment 171: If additional credits exist as a result of a mitigation project, will the applicant be allowed to utilize those credits on a future project? (ODNR)

Comment 172: Page 17- 2nd paragraph, last sentence - is not complete. Please review the language. (ODNR)

Comment 173: CMRSISOv5 Section 2.3.1; part 1.; Page 17; "Where the on-site stream replacement criteria are met for Mitigation Category 1 streams, all stream mitigation requirements are satisfied. Furthermore, the project is exempted from avoidance and minimization requirements, the demonstration of important social economic and environmental benefits and factors reviewed in determination of whether or not to allow lowering of water quality [see OAC 3745-32-04(C)(1)]."
Comment: This statement opens the door for a great streamlining opportunity in the form of a tiered 401 or state water quality permit process. For projects that are only impacting category 1 streams and the replacement will occur on site, these projects should be offered an expedited review based on the fact that they would be exempt from the myriad of typical requirements needed for a traditional individual 401 review. Additionally, current OEPA regulations do not allow for this selective review of impacts under Section 401 of the Clean Water Act. Additional rule changes may be necessary for OEPA to make this claim here in the CMRSISOv5. (ODOT)

Comment 174: CMRSISOv5 Section 2.3.1; part 2.; Page 17; "Where the on-site stream relocation criteria are met for Mitigation Category 2 streams, all stream mitigation requirements are satisfied. Furthermore, the project automatically is considered to be a minimal degradation alternative and the project is exempt from avoidance and minimization requirements.."

Comment: In this first sentence, should the term “relocation” be replaced with “replacement” to be consistent with the preceding introductory paragraph? Once again this paragraph proposes what appears to be an opportunity for expedited review under a tiered approach to 401 permitting. However the wording appears to contradict the current review process stipulated in rule. (ODOT)

Comment 175: CMRSISOv5 Section 2.3.1; Page 17; second to last paragraph on the page; last sentence; typo;
Comment: It appears words are missing from the end of the sentence..?
(ODOT)

Comment 176: Section 2.3.1, sixth paragraph, last sentence is incomplete. (Hull & Associates, Inc.)

Comment 177: On Page 17, the proposed stream rule refers to Category 1 and 2 streams and how through on-site relocation they are exempt from avoidance and minimization requirements. This may create some problems when a 404 permit and 401 certification are required. Although these may be lower quality streams, they still need to demonstrate avoidance and minimization measures for the Section 404 permit process. (USACE)

Comment 178: CMRSISOv5 Section 2.3.1; Page 17; last paragraph on the page;
“Relocated stream segments must be protected from further impacts in perpetuity and provide for final mitigation outcomes that foster longterm stream stability (i.e. self-maintaining systems).”
Comment: Why is there a need to protect a relocated stream in perpetuity? The new stream will be protected by the same rules and laws that protect the stream previously. Placing a relocated stream in perpetual protection in an area that will most certainly need human intervention and manipulation in the future is not logical, or meet the laws of common sense. For example, a roadway that connects a community to its hospital has a stream running along the roadway. Over time the stream erodes at the roadway embankment causing the need for repairs. The stream is permitted under these rules and relocated away from the road to protect the road. The stream is protected in perpetuity as is required by this rule. In the future, the same erosion occurs once again threatening the integrity of the roadway. However now, because under these proposed rules the relocated stream had to be protected in perpetuity, work cannot be done legally to protect the road. Based on that requirement for perpetual protection of relocated streams (above and beyond how the stream is protected or will be protected by the Clean Water Act), it is therefore OEPA’s stance that the road should fail and fall into the stream, disconnecting the community from their hospital (or insert any other public activity or institution), putting that community at risk of being disconnected from life-saving services, and wasting the public funds spent on that transportation infrastructure.

Does this statement only apply to relocated stream segments that are being proposed as mitigation? ODOT must at times relocate streams that have been historically channelized near the roadway. These streams are in the roadway right of way and may need to be moved again in the future to maintain the roadway. To preserve them in perpetuity would not allow for future maintenance activities necessary to create a safe roadway. Is this guidance or rule? If it is rule it will be nearly impossible for ODOT to abide by it. We will almost certainly have to impact it in the future. If protection through preservation is vital to streams, preservation should be allowed to account for a greater amount, if not all, of stream mitigation needs. (ODOT)

Comment 179: 2.3.1 On-Site Stream Replacement and Stream Relocation - "1. For Mitigation Category 1 streams, replacement of functional flood prone area or channel reconstruction in accordance with the procedures described in Section 3.1 or 3.2 of this manual, as appropriate, to meet the on-site mitigation standard set in OAC 3745-1-56(D)(3)(a). Where the on-site stream replacement criteria are met for Mitigation Category 1 streams, all stream mitigation requirements are satisfied. Furthermore, the project is exempted from avoidance and minimization requirements, the demonstration of important social, economic and environmental benefits and factors reviewed in determination of whether or not to allow a lowering of water quality [see OAC 3745-32-04(C)(1)]."

EPA Comment - For Federally regulated streams, the review of the project must comply with 40 CFR Part 230.10, which requires avoidance first of water resources, then the minimization of the impacts. There is no exemption from this requirement based on the size or quality of waters within the Federal review.

"2. For Mitigation Category 2 streams, stream channel relocation in accordance with the procedures described in Section 3.1 or 3.2 of this manual, as appropriate, to meet the onsite mitigation standard set in OAC 3745-1-56 (D)(3)(b). For streams designated or meeting the definition of MWH or LRWAMD (where QHEI scores are greater than 40), habitat performance criteria also need to be met as described in Table 10 and Section 5 of this manual. Where the on-site stream relocation criteria are met for Mitigation Category 2 streams, all stream mitigation requirements are satisfied. Furthermore, the project automatically is considered to be a minimal degradation alternative and the project is exempt from avoidance and minimization requirements [see paragraph (C)(I) of OAC Rule 3745-32-04."

EPA Comment - For Federally regulated streams, 40 CFR Part 230.10 requires avoidance and minimization. There is no exemption for a project based on the size or quality of waters. To exempt impacts to these waters from review is not protective of water resources and may not be protective

of downstream waters leading to a violation of state water quality standards.

"3. For Mitigation Category 3 and 4 streams, on-site stream relocation projects must account for the provision of adequate flood prone area and habitat quality using the guidelines provided in Sections 3 and 4 of this manual [OAC 3745-1-56 (D)(3)(c)]. Determinations with respect to meeting mitigation requirements are based upon comparisons of impact debits to mitigation credits. In instances where the credits for the relocated channel equal or exceed the debits calculated for the impacts associated with the project, no additional mitigation is needed. However, if a deficit exists for one or both of the debit-credit metrics, then additional mitigation will be required as necessary to balance the debits with mitigation credits in accordance with paragraph (D)(4) of OAC Rule 3745-1-56. There are no exemptions or default minimal degradation alternatives related to the antidegradation rule for Mitigation Category 3 and 4 relocation projects."

EPA Comment - The determination of adequate mitigation based on replacement of only linear feet may not fully account for temporal loss or cumulative impacts in a watershed. (U.S. EPA, Region 5)

Comment 180: Page 18- Section 2.3.2 Stream Restoration-language should be added to encourage the restoration of streams identified in watershed action plans or Total Maximum Daily Load reports, similar to what is included for Stream Preservation. (ODNR)

Comment 181: Page 18- Section 2.3.2 Stream Restoration- The option to restore a stream via the outcome of a riparian planting for impacts to a stream is no different than what OEP A has allowed in the past. This appears to be an arbitrary metric, since it is outside of the debit-credit metrics. How will Ohio EPA determine the awarding of credits? Riparian planting should only be calculated under Stream Enhancement. (ODNR)

Comment 182: 2.3.3 Stream Enhancement - "Stream enhancement means the implementation of stream channel or riparian buffer improvement activities for stream segments that are fully meeting the goals for adjusted flood prone area, adjusted habitat area, or both as outlined in OAC Rule 3745-1-56. Stream enhancement projects must provide demonstrable improvements in adjusted flood prone area, habitat quality, or riparian buffer quality during the applicable mitigation monitoring period."

EPA Comment - This section is unclear. The first sentence states that the stream segments are fully meeting goals for flood prone area; while the next sentence states enhancement projects must provide demonstrable improvements in adjusted flood prone area. This section should be clarified as per 40 CFR 230.92 and 33 CFR 332.2 and include that enhancement "does not result in a gain in aquatic resource area." (U.S. EPA, Region 5)

Comment 183: Page 19- Stream Preservation- this section mentions twice the requirement that 51% of mitigation be generated by Stream Restoration or Enhancement. This language should also be added to the Stream Restoration and the Stream Enhancement portion of the Protocol. (ODNR)

Comment 184: 2.3.4 Stream Preservation - "(b) For debits accrued for impacts to streams that fall within either mitigation category 3 or 4, the majority of the credits (at least fifty-one per cent) must be generated through stream restoration or stream enhancement activities. Mitigation credits for stream preservation projects up to forty-nine per cent are acceptable for stream segments that are assigned to mitigation categories 3 or 4."

EPA Comment - This is more limiting than the 2008 Mitigation Rule. However, as stated above the proposed mitigation ratios may not adequately offset impacts to streams as the assessment focuses on calculating credits based on physical measurements. (U.S. EPA, Region 5)

Comment 185: CMRSISOv5 Section 2.3.4.; Page 19-20; quote of OAC Rule 3745-1-56
Comment: For clarity and ease of use of this guidebook, provide the full text of Table 1 from 3745-1-56 on page 20. (ODOT)

Comment 186: Page 20- Stream Preservation- Paragraph d- refers to Table 1 of this rule. This language is too vague. Please provide the specific rule reference. (ODNR)

Comment 187: CMRSISOv5 Section 2.4.; Page 21; first paragraph; first sentence;
"Mitigation requirements for impact to streams are met when the credits generated for a mitigation project equal or exceed the debits accrued for impacts."
Comment: Is it allowable for excess credits above what is necessary to meet a particular project debits be made available as mitigation credits for future projects' impacts? (ODOT)

Comment 188: CMRSISOv5 Section 2.4.; Page 21.
Comment: Further discussion and clarification needs to be provided on what is an "impact". Since this rule goes beyond traditional Clean Water Act jurisdiction where impact is defined by dredge and fill activities below the OHWM, it is unclear what work within the floodprone area will be considered an impact and subject to State Water Quality permitting. This ambiguity is a major concern for ODOT. (ODOT)

Comment 189: Debit and Credit Accounting- Does this system work for projects on Category 3 or 4 streams that will impact only one bank of a stream? How will mitigation be calculated? (ODNR)

Comment 190: Debit and Credit Accounting- Can large acreage project (i.e. Coal Mining) applicants provide all of the needed information for stream impacts and

acres of adjusted flood prone area for mitigation required in one combined assessment? Or will an assessment be needed for each stream? (ODNR)

Comment 191: To simplify the categories and the protocol, please consider adding Class 2 Headwaters to Category 1. (ODNR)

Comment 192: How will monitoring be done to reliably verify that the required flood prone area has been achieved? Is this a Rosgen type measurement or are actual water levels required to be documented at certain levels? (USACE)

Comment 193: CMRSISOv5 Section 2.4.; Page 22. Table 3
Comment: in several places a "table w" is referenced. Where is this table? (ODOT)

Comment 194: 2.4 Credit and Debit Accounting - Tables 3-6 Preservation of mitigation

EPA Comment - In keeping with the 2008 Mitigation Rule, long term protection for enhancement and restoration projects would be required and credits would not be calculated separately. Preservation credit should only be granted when that is the only form of mitigation on a particular stream reach. (U.S. EPA, Region 5)

Comment 195: No value appears to be added from Tables 3-6. Please eliminate them to avoid any confusion. (ODNR)

Comment 196: Page 26- Section 2.4.1 Debit Accounting Paragraph 1- It is not clear why the debit value metric Ad must be less than or equal to zero. When calculating debits from culverting a project, you have an initial area and a resulting area (0 acres) and a debit of X acres. Why does X have to be equal to or less than 0? This section should only be discussing the debits as a result of the proposed impact. (ODNR)

Comment 197: CMRSISOv5 Section 2.4.; Page 27. Table 7
Comment: This is Table 1 in 3745-1-56 not "Table z" as indicated in the heading of Table 7. Please clarify. (ODOT)

Comment 198: CMRSISOv5 Section 2.4.1.; Page 28; part (ii)(a);
Comment: ODOT appreciates the flexibility provided in this section to waive the additional 10% if site specific conditions prevent mitigation either on-site or along the impacted stream. Often streams that were historically relocated along roadways have now been penned in against the road by adjacent development making onsite stream mitigation in these areas impossible. (ODOT)

Comment 199: Section 2.4, Table 3 refers to a 'Table w' that is not included. Table 7 refers to a 'Table z' (sic) that is not included in the cited draft rule. A list of

all tables and Figures with page number references would be useful. (Hull & Associates, Inc.)

Comment 200: Table 7 Mitigation ratios established in Table z of OAC 3745-1-56

EPA Comment - While the 2008 Mitigation Rule, requires a minimum of a 1:1 ratio when a functional assessment is not complete, it does not have a specified maximum. As some streams are unique for recreational, hydrological and ecological factors it would be in appropriate to assign a maximum value that may not offset the functional losses and may not be in compliance with the 2008 Mitigation Rule. Further, OEPA does not include a mechanism or suggestion on how to account for both temporal and cumulative impacts. These are both factors that are considered when evaluating proposed mitigation with the 2008 Mitigation Rule. (U.S. EPA, Region 5)

Comment 201: Regarding the mitigation ratios proposed in Table 7 – If the impacts are proposed on lower quality streams (category 1 and 2), but the temporal impacts are long (greater than 5 years) like for a coal mining project, it seems appropriate that additional mitigation occur (e.g. 1.2:1) to ensure that water quality degradation does not result. (ODNR)

Comment 202: Page 28 Mitigation outside the 12 digit Hydrologic Unit Code (HUC)- The language allowing the Director to waive the 10% additional mitigation if site specific conditions prevent on site mitigation or mitigation along the impacted stream will be a burden for urban watersheds since every developer will likely argue that the site specific conditions prevent mitigation due to high land costs. The waiver of the 10% additional mitigation requirement will be an enticement. (ODNR)

Comment 203: The 12 digit HUC stream mitigation requirement is different than the requirement for wetland mitigation replacement. ODNR thinks that this will cause confusion for applicants that propose both wetland and stream impacts. Can the wetland language be amended in the near future to mimic the 12 digit HUC language? (ODNR)

Comment 204: How will Ohio EPA determine if a mitigation proposal will provide significant water quality benefits as required in the rule OAC 3745-1-56 (D)(4)(e)(ii)(c)? (ODNR)

Comment 205: Pages 28-29 Credit Accounting- Only 4 types of stream mitigation are discussed on page 16, but 5 types of mitigation credit are listed here. We recommend that on-site stream relocation also be mentioned here. (ODNR)

Comment 206: Page 28- Credit Accounting- Paragraph 2- Since the Enhancement Credit based on the actual improvement it appears to give a lot of credit for dam

removals. An example of how Ohio EPA will award dam removal enhancement credits would be helpful. (ODNR)

Comment 207: Page 28- Credit Accounting- Paragraph 3- Why is the Enhancement plus Preservation Credit based on the resulting condition? It should be based on the actual improvement as outlined in paragraph 2. Otherwise you are encouraging enhancement above restoration. (ODNR)

Comment 208: 2.4.2 Credit Accounting –

EPA Comment - As previously stated, EPA does not support the granting of credits without the long term protection of the mitigation site. (U.S. EPA, Region 5)

Section 3

Comment 209: Page 30, Section 3, Stream Replacement Guidelines, Paragraph 3 does not make sense. Why should Mitigation Category 1 & 2 replacement habitat criteria be reviewed for sufficiency for Category 3 & 4 stream impacts? Please clarify the requirements of this paragraph. (ODNR)

Comment 210: Page 30, Section 3, Stream Replacement Guidelines, Paragraph 4- The requirement that onsite stream mitigation length for Category 2, 3 and 4 streams may be problematic when there is insufficient stream power due to the small watershed size to generate and/or maintain a stream channel. The result may be a non-functional engineered channel which seems inconsistent with the goal of the mitigation. This may not be a problem if Class 2 (low energy) primary headwaters are moved to Category 1 mitigation streams. (ODNR)

Comment 211: 3. Stream Replacement Guidelines

"4. All Mitigation Category 2, 3, and 4 streams: to be counted as on-site mitigation, the resulting channel length must be greater than or equal to the length of impacted stream segment [OAC 3745-1-56 (0)(3)]."

EPA Comment - EPA supports mitigation onsite, however, it may be necessary, based on site conditions, to not replace all impacted stream length on site. Off site mitigation would not entirely devalue the mitigation and should be considered to address any shortages, as appropriate. (U.S. EPA, Region 5)

Comment 212: Section 3.1, last sentence, last paragraph says that 'Use of alternative streamway targets is allowed only with the approval of Ohio EPA.' Who at Ohio EPA has approval authority? Is this up to Section 401 reviewers? What training will be provided to staff to allow these approvals to be made quickly and consistently? (Hull & Associates, Inc.)

Comment 213: Page 33- Section 3.2. To be consistent, we recommend that the section heading be changed to "On-site replacement requirements for Mitigation Category 1 or 2 stream channels with slopes greater than 2 percent". (ODNR)

Comment 214: Section 3.2.1, last sentence says that 'Use of alternative designs must be approved by Ohio EPA.' Does Ohio EPA plan to hire qualified and experienced hydrologists to review such alternate plans? (Hull & Associates, Inc.)

Section 4

Comment 215: Section 4.1 p. 37, methods for determination of flood prone area. This is an example of the large amount of new work that applicants will need to perform at significant expense. (Hull & Associates, Inc.)

Comment 216: Page 38- Section 4.2 Soils Weighting Factor- Renumber Table 3.1 to Table 9. (ODNR)

Comment 217: For soils, the protocol says to use the NRCS soil maps. For relocation projects these might not be appropriate depending on the amount of excavation necessary to relocate the stream. In these situations would an analysis of soils at depth be required to determine the soil weighting factor? (USACE)

Comment 218: Section 4.2 Comment: The table provided lists parameters used to determine the Soil Weighing Factor. The data provided is not broken into categories that align with the permeability or percent organic matter data provided by NRCS soil surveys. The NRCS data provided in their soil surveys are in much broader ranges than the data required using this table. This data can be approximately correlated with Hydrologic Groups from the Water Features report on the NRCS website. Soil integrity should be included in this protocol; however, a more simplistic method of assigning weights should be devised. (Civil and Environmental Consultants, Inc.)

Comment 219: Section 4.2 Comment #2: If the soil types vary throughout the length of the stream, it is not mentioned if the credits/debits should be broken by length as well or if the soil surrounding the dominant soil type length should be used. The guidance does mention to use the dominant soil type if there is a mixture, but not what to use when it is broken into differing lengths. If the stream channel needs broken into lengths, there should be a cell provided to include varying lengths of channel assigned to different SWF's to avoid multiple spreadsheets for the same stream channel. (Civil and Environmental Consultants, Inc.)

Comment 220: CMRSISOv5 Section 4.2.; Page 38; Soils Weighting Factor

Comment: Requiring soil factors to define mitigation greatly increases the time, level of effort, and cost for determining applicability, potential success, and long term success of stream mitigation projects while being questionable as to the actual benefit a soils criteria or factor actually provides. The establishment of riparian vegetation is a greater indicator for upland stability and restoration and provides known benefits to water quality. (ODOT)

Comment 221: Page 38 Section 4.2 Soils Weighting Factor - We recommend the following hyperlink for access to the Web Soil Survey because it provides a tutorial on how to use the Web Soil Survey as well as access to the application. <http://websoilsurvey.nrcs.usda.gov/app/>. (ODNR)

Comment 222: Page 39- Table 9- Permeability in micro m/sec. The footnote should be changed from 4 to 9. (ODNR)

Section 5

Comment 223: Pages 40-51- Aquatic Habitat Area quantification; adjusted habitat, area of the stream channel, habitat index ratio, habitat condition factor, and final adjusted aquatic habitat area seems unnecessarily complex. Can this concept be simplified? (ODNR)

Comment 224: CMRSISOv5 Section 5.2.1.; Page 42;
Comment: Shouldn't W_{Bkf} be incorporated into the calculation for FPA_{low} ? (ODOT)

Comment 225: CMRSISOv5 Section 5.2.1.; Page 42;
Comment: ODOT appreciates the flexibility provided in this section by using aerial photographs and mapping to establish pre-impact conditions. This will be especially valuable if allowed to be applied to potential mitigation sites. Being able to review multiple sites via aerial photography prior to entering into the property acquisition process may allow ODOT to make better mitigation decisions. (ODOT)

Comment 226: Section 5.2.2 – This section is confusing. It appears to say that one must do a QHEI on all streams except Class III PHWH, including Class I and Class II headwaters. Performing a QHEI on a headwaters stream would not be appropriate. (Hull & Associates, Inc.)

Comment 227: CMRSISOv5 Section 5.2.3.; Page 44;
Comment: Instructions are needed for how to use Table 11 when, we assume, we are to tally the numbers of WWH, HI and MI attributes. For example, in the second row down, should an applicant count for a WWH attribute when any boulder, cobble, or gravel substrates are present? What if there is some silt or muck? Should a WWH and a HI be tallied for that

stream? Obviously the lack of instructions provides little insight on how to consistently use this table therefore setting up the likely possibility for disagreements and confusion between applicants and the regulators when calculating the F_c . Please provide instructions. (ODOT)

Comment 228: Section 5.2.3 – first paragraph, last sentence references a Table 4-3 that is not in the methodology. (Hull & Associates, Inc.)

Comment 229: Section 5.2.4, last paragraph, last sentence – will Ohio EPA be redoing all of an applicant's HHEIs and QHEIs to satisfy the agency as to accuracy? This could lead to significant delays due to seasonal weather constraints for evaluating streams. (Hull & Associates, Inc.)

Comment 230: Page 46- Table 12- Condition Factors for Adjusted Aquatic Habitat. Per the Ohio EPA HHEI 2009 Manual- "Streams in the "NONE/NATURAL CHANNEL" and the "RECOVERED" categories are considered "natural" channels for HHEI classification (Figure 15), while those in the "RECOVERING" and the "RECENT OR NO RECOVERY" categories are considered "modified" channels". Yet the Stream Mitigation Protocol (Version 5) manual gives extra credit for none/natural channels by awarding a Condition Factor Score of 1.2 and a factor of 1 for a recovered channel. Does the data that EPA has for HHEI support the SMP condition factor rankings between 1.2 - 0.4? (ODNR)

Comment 231: Has a concern about the narrative descriptions for None/Natural Channel, Recovered, Recovering and Recent or No Recovery in the HHEI Manual (OEPA, 2009) stating that riffles and pools with wooded riparian areas are the "standard" for natural channels. How will the HHEI manual and the requirements of Table 12 impact stream relocations and restorations for Category 1 streams? (ODNR)

Comment 232: Page 48- Section 5.3-Design targets for mitigation Credits. Please clarify "The need for proper engineering considerations in the design to ensure vertical stability and the appropriate channel dimensions must be factored in when developing habitat-based design components". (ODNR)

Comment 233: Page 48- Section 5.3-Design targets for mitigation Credits. Please explain how the applicant should use reference data whenever possible to provide appropriate habitat index targets for the project setting. Does this mean that applicants will have to conduct use attainability analyses of reference sites to develop appropriate habitat design standards? (ODNR)

Comment 234: Page 48- Section 5.3- Design targets for mitigation Credits. Please provide detail on what an appropriate habitat design standard is? (ODNR)

Comment 235: Pages 49-50. Please identify the acronyms for the Ecoregions in Figures 5-7 titles. Please explain how the Habitat Condition Factor variable is accounted for in these figures. (ODNR)

Comment 236: Table 13- The results for the PHWH streams are not robust enough to be statistically significant for characterizing streams attaining Warmwater Habitat (WWH) communities to use as reference. Why are there only 32 sites statewide? (ODNR)

Comment 237: Table 13- The results for the Western Allegheny Plateau (W AP), Huron Erie Lake Plain (HELP) and Interior Plateau (IP) do not have a significant amount of data points to be used as targets for characterizing streams attaining Warmwater Habitat (WWH) communities. (ODNR)

Comment 238: Table 13- The median values for the HELP (good and excellent status), IP(good status) streams are at or below a QHEI of 60, the typical "target" for attaining warmwater habitat streams. Of most concern is that the median for good streams =60 is lower than: the median for excellent streams (QHEI = 55). (ODNR)

Section 6

Comment 239: CMRSISOv5 Section 6.; Page 52; "It is important to determine whether requirements for wetlands, streams, or both should be applied when impacts are proposed within the lacustrine environment."
Comment: This statement codifies "double dinging" of applicants on multiple resources for the one impact. (ODOT)

Comment 240: Page 52- Section 6. Adjusted Aquatic Habitat Area Quantification and Mitigation Guidelines for Lake Erie Lacustrine Areas. We believe that it will confuse applicants by stating that this section applies to estuary areas that meet the definition of lacustrine. If an "estuary is a partially enclosed coastal body of water, having an open connection with the Great Lakes or ocean, where freshwater from an inland river is mixed with water from the Great Lakes or ocean" then the use of the terminology estuary seems inappropriate for the lengths of stream designated. We recommend removing the term estuary and simply using the term reach or zone. (ODNR)

Comment 241: Page 53- How will Ohio EPA treat Conneaut Creek, which is a designated Exceptional Warmwater Habitat in the 1.08 mile lacustrine area. Will it be considered a Mitigation Category 3 stream as a lacustrine or a Category 4 stream? (ODNR)

Comment 242: Page 53- It is not clear how impacts within the Cuyahoga River Ship Channel will be treated under the new rule. What is its appropriate mitigation category? (ODNR)

Comment 243: Page 53- Not requiring the calculation of Adjusted Habitat in federal navigation channels is contrary to the goals of the Cuyahoga River Remedial Action Plan. Please see the attached hyperlink which is proposing 5 restoration sites in the Cleveland Harbor area. <http://www.cuyahogariverrap.org/ShippingChannelShipChannel.html> . If mitigation is not required, how can we expect to restore the beneficial uses in these tributaries and in Lake Erie. Lake Erie in lieu fee projects may be a way to accomplish improvements. (ODNR)

Comment 244: Page 54- Section 6.1.1 Potential Lacustrary Habitat Area Calculation (AL)- The weighting factor for Range 1 should be specified in the appropriate paragraph. (ODNR)

Comment 245: Page 54- Range 1- References to the point 6.6 feet below the minimum Lake Erie water level should be changed to 6.4 feet below the average Lake Erie Water Level. (ODNR)

Comment 246: Page 55- Range 2- References to the point 6.6 feet below the minimum Lake Erie water level should be changed to 6.4 feet. (ODNR)

Comment 247: Page 55- Range 3- The weighting factor should be clarified. (ODNR)

Comment 248: Page 55- Range 4- The weighting factor should be clarified. (ODNR)

Comment 249: Page 56- The reference year for Roger Thoma's documents needs to be reconciled with the Bibliography. Is the Lake QHEI reference 1999 or 1998? (ODNR)

Comment 250: Equation #10 on page 56 appears to have a typo on the weighting factor – weighting factor should be 0.7 according to Table 15. (Hull & Associates, Inc.)

Comment 251: Page 58-Section 6.1.4 Final Calculation of the adjusted lacustrary habitat area. This section seems complicated by the 2 habitat factors (R_{QL} and F_{CL}) which are both based on the same metrics from the Lake Erie Qualitative Habitat Evaluation Index Score. It is not clear why 2 habitat index scores are needed. Please simplify.

The target of 50 for lacustrary areas does not seem to take into account the existing condition of the lacustrary area. What if a lacustrary area scores 70 prior to impact? Language should be added to clarify that an aquatic improvement is needed to account for the temporal and spatial disruption. (ODNR)

Comment 252: For all stream mitigation projects (lacustrary and non-lacustrary)- Please include wording to require and incorporate coordination with local state

endorsed watershed action plans, watershed organizations, watershed and Remedial Action plan coordinators in the mitigation process. (ODNR)

Comment 253: The Coastal Non Point Source (NPS) management measures for shorelines can apply and provide best management practices (BMP's) as it relates to bioengineering shorelines. Please see <http://water.epa.gov/polwaste/nps/czara/ch6-4.cfm>. (ODNR)

Comment 254: The Coastal Non Point Source (NPS) management measures for the restoration of wetlands and riparian areas provides best management practices (BMPs). Please see <http://water.epa.gov/polwaste/nps/czara/ch7-2b.cfm>. (ODNR)

Comment 255: DSWR recommends that Ohio EPA create a spreadsheet tool to facilitate the calculation of the existing lacustuary condition and the proposed mitigation condition. (ODNR)

Comment 256: Section 6.2 – what is the LEQHEI? Is this method released to the public and is training offered in how to use it? (Hull & Associates, Inc.)

Comment 257: DSWR acknowledges that Remedial Action Plan coordination is extremely important. However, we recommend not including the coordinator by name in the Protocol since personnel are likely to change over time. Specifically, the names and addresses listed on page 59 are already out of date. The Federal coordinators have been relocated in Chicago. (ODNR)

Section 7

Comment 258: CMRSISOv5 Section 7.; Page 60; fourth paragraph; "...plantings in riparian buffer areas should utilize only native Ohio vegetation and allow for the natural succession of vegetation,..".

Comment: The use of only native vegetation may limit the success of vegetation becoming established on areas immediately adjacent to roadways that may be riparian buffer. (ODOT)

Comment 259: CMRSISOv5 Section 7.; Page 61; first paragraph; "..may qualify for mitigation credits for both streams and wetlands."

Comment: Having the potential of receiving mitigation credit for so called "double dipping" would be greatly beneficial for both ecological integrity and financial efficiency for applicants. (ODOT)

Comment 260: Page 61- Although ODNR agrees that the protection of high quality wetlands should be a priority, it is not clear why the protocol may give an applicant both stream and wetland mitigation credit for protecting a riparian wetland. Also the protocol does not clearly state that the wetland should be a category 3 wetland to achieve both wetland and stream preservation credit. (ODNR)

Comment 261: Page 61- DSWR Recommends that the language in Section 7.1 (Vegetated Buffer Widths) be modified by removing the statement "When possible" in the first sentence. Buffer widths should always be scaled to drainage area. Regarding the vegetated buffer widths for steep slopes- Please add a clarifying statement that the width needs to include the entire valley wall and the top of the slope at a minimum, to protect against erosion.

An example of a 4% slope stream mitigation project by ODOT on Slemmons Run (in Morgan County) is shown below. The location shown is under a transmission line, so instead of trees ODOT concreted large rock to stabilize the left descending bank instead of providing a vegetated buffer. DSWR is concerned that other mitigation projects could be stabilized in this fashion by allowing the verbiage "When possible" to remain in the protocol. (ODNR)

Comment 262: CMRSISOv5 Section 7.1.; Page 61; last paragraph; typo;
Comment: "...where there steep slopes exist.." (ODOT)

Comment 263: Page 62- "Other requirements may also be necessary to protect stream banks and the flood prone areas" language is vague. Please provide examples of what Ohio EPA is thinking of as a potential requirement. (ODNR)

Comment 264: Page 63- Section 7.2- Paragraph 1- How will Ohio EPA determine what native species will be required in the vegetated buffer based on the downstream designated or existing uses? Aren't native plants equally appropriate? (ODNR)

Comment 265: CMRSISOv5 Section 7.3.; Page 63; typo;
Comment: insert appropriate paragraph spacing before "Disturbance...". (ODOT)

Comment 266: Page 63- Section 7.3 (Planting Plan)- What guidance can applicants use to prepare their planting plans so that they are assured that they "consider the natural floristic communities characteristic of the watershed setting"? Does this mean that for projects in Madison County's Darby Plains, that the applicant should consider planting prairie vegetation? (ODNR)

Comment 267: Page 63- Section 7.3 (Planting Plan)- The language "Disturbance of mature riparian vegetation should be avoided, whenever possible" is vague. When will Ohio EPA allow removal of mature vegetation? Or does this only apply to woody vegetation? Sometimes it will be essential to remove trees that have grown on the tops of old levees, if an applicant is going to provide the target floodplain width essential for healthy streams. (ODNR)

Comment 268: Page 64- Will an acceptable statement by the applicant saying that they expect volunteer native re-vegetation naturally to occur during site recovery suffice for a planting plan? (ODNR)

Comment 269: DSWR thinks it unrealistic to require the source(s) of the required seeds, root stock, cuttings, plant plugs etc in a mitigation plan at the time of a 401 application. Please remove this bulleted item. (ODNR)

Comment 270: Under what circumstances would Ohio EPA require the removal of temporary ground cover? (ODNR)

Comment 271: How is removal of forested areas to achieve floodprone area targets considered? Is there a scenario where the benefit of a forested area is worth more than removing it to achieve the floodprone area targets? (USACE)

Comment 272: CMRSISOv5 Section 7.4:

Comment: It is inappropriate to use the FQAI to develop performance criteria for the re-establishment of wooded riparian buffers. The FQAI is based on coefficients of conservatism (C of C) values assigned to plant species. These C of C values range from 0-10 and the score is assigned based on a plant's range of ecological tolerances. Zero being a species very tolerant and 10 being very intolerant. The C of C score is in no way based on the ecological importance or value of the species. For example, from an ecological standpoint, the eastern cottonwood (*Populus deltoides*) is an extremely important tree in Ohio riparian zones. No biologist conducting stream sampling within Ohio could dispute that large cottonwoods can provide excellent in-stream habitat (root wads and root mats), bank stabilization, and shade for the channel. Additionally, this species provides excellent habitat for birds and mammals. The C of C score for this species is 3. The same could be argued for silver maple (*Acer saccharinum*, C of C =3) and black willow (*Salix nigra*, C of C = 2). As indicated by their C of C scores, these are widespread taxa that possess an intermediate range of ecological tolerances. However, their ecological importance throughout Ohio riparian areas is not reflected by this score. Using a species' C of C score to determine a planting plan for riparian areas, and even worse, to establish a performance standard for a riparian area, is a well intentioned misuse of the FQAI. Riparian areas are often subjected to periodic disturbances such as varying duration of inundation, strong currents, erosional forces, debris build up, silt deposition, etc. As a result, the species that reside in these riparian areas are often tolerant to ecological disturbances. In fact, it is questionable whether many woody species that are intolerant to ecological disturbances (i.e. species with C of C of 5-10) could even survive within a riparian area located within a flood prone area.

Natural plant communities in Ohio were studied by the Ohio Department of Natural Resources, Division of Natural Areas and Preserves in Plant Communities of Ohio: A Preliminary Classification and Description (D.M. Anderson, 1982 unpublished). This document described the natural, less disturbed plant communities (including floodplain forests) within Ohio. The document includes discussion on Maple-Cottonwood-Sycamore Floodplain Forests, River Birch-Maple Floodplain Forest, and wet and mesic Mixed Floodplain Forests. Planting plans should be established based on the dominant species known to be in these natural plant communities, rather than planting arbitrarily using C of C scores and the FQAI. The goal of riparian restoration should be to establish a “natural” Ohio riparian community. A review of the plant communities noted within the Anderson report indicated that the Maple-Cottonwood-Sycamore Floodplain Forest was characterized by 12 dominant species with an average C of C score of 3.7, the River Birch-Maple Floodplain Forest was dominated by 11 species with an average C of C score of 4.5, and the “wet” Mixed Floodplain Forest (which is what would be expected in a flood prone area) was dominated by 11 species with an average C of C of 4.3. That is not to say that some dominant floodplain tree species do not have high C of C scores (for example, *Betula nigra*, C of C = 9 and *Platanus occidentalis* C of C = 7), but rather to say that the C of C score is simply not indicative of the of the quality, function, or value of Ohio’s dominant riparian floodplain forest habitat trees. If Ohio’s natural floodplain communities are dominated by species with C of C scores less than 5, then it apparent that possessing a high C of C score, and associated woody community FQAI, is not an accurate or appropriate means or method for designing or judging a riparian floodplain community. The use of C of Cs and FQAI should be entirely removed from section 7.4. (ODOT)

Comment 273: Page 64-Section 7.4. The first paragraph implies that the applicant will determine the performance criteria for forested buffer re-establishment. This language should be removed or clarified. (ODNR)

Comment 274: Section 7.4

- This section allows reference reaches to be used to establish performance criteria for re-establishment of forested buffers. Is that approach still acceptable if the results of that analysis do not match the specified ‘appropriate targets’?
- The targets specified must be carefully considered, as they will likely be used verbatim in Section 401 or SWQP conditions. Meeting these targets in riparian areas will be very expensive. It appears these targets were conceived of as conservative targets designed to provide a margin of safety; however, they are much too stringent for some sites, particularly those where reference reach data shows lower targets should be adequate. (Hull & Associates, Inc.)

Comment 275: Please clarify in what cases, an extended monitoring period may be necessary. (ODNR)

Comment 276: Use of the Floristic Quality Assessment Index (FQAI) score for a performance standard is understandable; however it is not clear why 50% is required for category 3 streams and only 25% for Category 4 streams~ Please explain. (ODNR)

Comment 277: Will FQAI data be provided on a watershed basis so that the targets for the least impacted reference sites within each watershed are available? The Andreas et al document only lists representative FQAI scores from Ohio EPA reference wetlands. (ODNR)

Comment 278: CMRSISOv5 Section 7.4. (1). "For preservation projects, the FQAI should have a score above the 50th percentile for least impacted reference sites within the watershed for mitigation category 3 streams and above the 25th percentile for mitigation category 4 streams."

Comment: While ODOT is aware of FQAI scores for wetland reference sites throughout Ohio, we are unaware of FQAI scores for riparian reference sites within watersheds. How is an applicant expected to compare the quality of their riparian preservation area with the 50th and 25th percentile of reference sites within the watershed? (ODOT)

Comment 279: CMRSISOv5 Section 7.4 (2)

Comment: This section refers to the performance criteria in 7.4.1. To ODOT's knowledge, these reference data do not exist. (ODOT)

Comment 280: Page 65- Section 7.4, paragraph c. DSWR has concerns about the language requiring 25% of the trees to have a coefficient of conservatism (COC) values from 5 to 10. Just looking at the data in Andreas et al, for Acer and Salix species, there are only 2 Acer species in this range (Acer saccharum=5 and Acer spicatum =8) and 8 Salix species, many are obligate (99% of the time found in wetlands, and many are threatened or endangered). It appears that it could be difficult to find species with high COC's that are commercially available and viable in non-wetland forests. DSWR recommends that the list of trees in Andreas et al be reviewed and that this requirement be modified.

Scientific Name	Common Name	COC	Comment per USDA plant Database
Salix bebbiana	Bebb's Willow	5	Not found
Salix candida	Sageleaf Willow	10	Threatened in Ohio, OBL
Salix caroliniana	Coastal Plain Willow	10	Threatened in Ohio, OBL
Salix myricoides	Blue-leaved Willow	10	A fen plant
Salix occidentalis	Western Willow	5	
Salix pedicellaris	Bog Willow	9	Endangered in Ohio, OBL
Salix petiolaris	Slender Willow	8	Threatened in Ohio, OBL
Salix serissima	Autumn Willow	10	OBL

(ODNR)

Comment 281: CMRSISOv5 Section 7.4 (3)a-f

Comment: Using species richness and abundance in conjunction with the C of C scores as a performance criteria for a riparian area establishes success criteria that would be extremely difficult to achieve, and that may have unintended consequences. First, woody species with high C of C scores are not necessarily species that provide the highest quality functions and values for stream habitat and water quality, or are likely to be the species that would dominate in a natural floodplain community in Ohio. Second, having a performance criteria that states "a minimum of 25% of all live trees present consist of at least 4 species having a C of C value from 5 to 10" may result in an applicant killing native volunteer species to maintain the balance in percentages necessary to achieve the performance standard. Imagine an applicant spraying herbicide along a riparian area to kill hundreds of volunteer sycamores that have begun to grow, just to keep it from becoming too dominant. If your site becomes 80% or 90% dominated by sycamore trees should the riparian planting be considered a failure? The stream should be so lucky.

Additionally the performance standards b and e indicate that a minimum of 8 native tree species, and 8 native shrub species be established along the riparian zone. How was this level of woody species richness established? Are these species richness levels typically observed in natural Ohio riparian zones?

ODOT offers the following suggestions to correct the requirements for forest buffer re-establishment:

- 3.a. This criterion should remain as both a design/construction and performance criteria. Whether the trees are planted or volunteer, "200 native, free standing, live and healthy trees per acre at the end of the monitoring period" is indeed the goal we should strive for.

3.b. This should be kept as a design/construction criterion, but not kept as a performance standard. Planting “8 native tree species”, each representing “at least 5% of the overall tree count”, is a good way to kick start diversity, however, the community will begin to be colonized by volunteers immediately, and planted trees that do not thrive under the site specific conditions may begin to die. For these reasons, 3.b should not be a performance criterion.

3.c. This criterion should be removed as both a design and a performance criteria for the reasons ODOT has already noted. The C of C score is not indicative of the quality, function, or value of Ohio’s dominant riparian floodplain forest habitat trees.

3.d. This criterion can remain as both a design/construction and performance criteria.

3e. ODOT questions the need to plant 8 different species of shrubs. Clearly planting 200 native shrubs per acre would be a good way to stabilize the areas disturbed by construction (3.d.), but why eight different species? What natural riparian floodplains have such a high species richness of shrubs? It would be more reasonable to change this to 3 to 4 species and keep it as a design/construction criterion. It should not be included as a performance criterion. Additionally, the shrubs that are planted will all most likely require full sun to part shade to survive and thrive in the newly constructed flood prone area and riparian zone. As such, these species of shrubs will not be the species that will likely persist and thrive 50 years following construction. As the forest canopy matures, it is likely that these shrub species will be replaced by shade tolerant species that would not have survived in the full sun conditions encountered immediately following construction.

3.f. This criterion should be removed as both a design and a performance criteria for the reasons ODOT has already noted. The C of C score is not indicative of the quality, function, or value of Ohio’s dominant riparian floodplain forest community, and it is likely that the shrub/sub canopy community will shift to more shade tolerant species as the forested canopy matures. With this expected shrub community shift, what is the point of this performance standard? (ODOT)

Section 8

Comment 282: Page 66- Section 8 (Construction Practices). The requirement for graded or exposed portions of the site being quickly stabilized with vegetative cover is subjective. Can reference be given to the size of acreage that is allowed to be de-stabilized at a time? Or to the time that an area is allowed to be de-stabilized after final grading as per the Rainwater and Land

Development Manual or the Mineral Resources requirements for Coal Mining sites? (ODNR)

Comment 283: Page 66- DSWR has concerns regarding soil compaction in the riparian buffers. Has Ohio EPA considered the use of wetland mats as an acceptable method for preventing compaction as shown in the picture below. (ODNR)

Section 9

Comment 284: For the mitigation plan, consider including these additional items: map showing existing plant communities and maturity, limits of cut and fill areas, limits of vegetation removal, map showing location invasive species communities, Corps jurisdictional determination letter and map, map showing locations of proposed planting areas, schematics of structures such as newbury riffles and water control structures, map showing 8 and 12 digit hucs and mitigation and impact sites, mitigation overlain on aerial photograph to show surrounding land uses, assessments of undesignated waters, proposed assessments, list of responsible parties with contact information, and discussion or existing easements on the site such as oil & gas, mining, utility. (USACE)

Comment 285: Page 67- Section 9 (Drawings) - Paragraph b- Please explain "an appropriate graphic scale (when reasonable)? (ODNR)

Comment 286: When a 401 application is submitted, will a detailed mitigation plan that meets all of the requirements listed in the Stream Mitigation Protocol be required before Ohio EPA will consider the application complete? If so, this may be a burden for many applicants initially. (ODNR)

Comment 287: Page 68- Paragraph 9- How is the applicant supposed to show the ordinary high water line of each affected and adjacent open surface waterbody? What is an open surface waterbody? (ODNR)

Comment 288: For mitigation plans with more than ten acres of riparian buffer area the drawings should show types of plantings, locations of plantings, etc. Why is this not required for any project that requires establishing a buffer? (USACE)

Comment 289: Page 68-Paragraph 10- what is a certified topographic drawing? Is this another name for an as built survey? (ODNR)

Comment 290: Page 68-Paragraph 10- What is a supplemental water quality project? (ODNR)

Section 10

Comment 291: CMRSISOv5 Section 10.; Page 68; typo;
Comment: add a space; "33_CFR.." (ODOT)

Comment 292: CMRSISOv5 Section 10.; Page 68;
Comment: CFR references do not appear to prescribe what financial assurances are necessary. OEPA may need to provide greater more detailed guidance on this issue if it does not come from the USACE as described in 33 CFR 332.3(n). (ODOT)

Appendix A

Comment 293: CMRSISOv5 Appendix A; page A-1-2;
Comment: There are unfortunately multiple typos throughout the document. Clearing up these minor typos would render this section more impactful as it comes from one of the best if not the most preeminent natural scientist and conservationist living in Ohio. (ODOT)

End of Comments