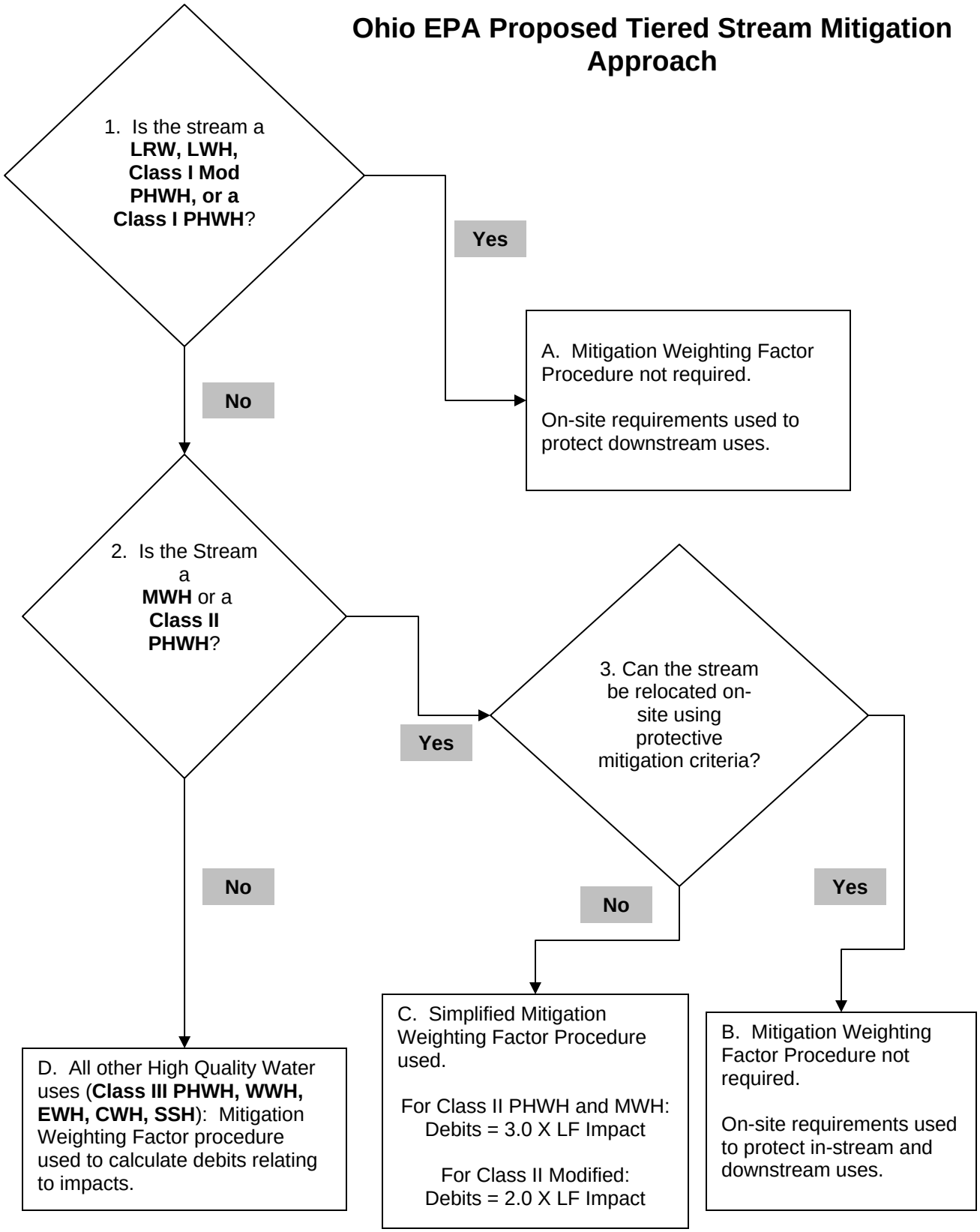
Attachment 2. Afternoon Session Pre-read Materials

Ohio EPA Proposed Tiered Stream Mitigation Approach

The following pages describe a proposed tiered approach to stream mitigation for Ohio designed to reflect requirements under the antidegradation provisions found in ORC § 6111.12, OAC 3745-1-05, 40 CFR 131.12, and the federal Clean Water Act to protect existing stream uses. The concepts presented are an attempt to further refine the decision logic presented in Revision 4.0 of the document "Draft Compensatory Mitigation Requirements for Stream Impacts in the State of Ohio" dated April 14, 2004.

The flow chart and accompanying explanatory text are intended as a basis for discussion for how the 401 certification process can be tiered across the spectrum of designated and proposed use designations and impact categories. Three decision points are described. A list of discussion items for each of the approaches is listed that can serve as a catalyst for clarification and input for the workgroup session.

Ohio EPA Proposed Tiered Stream Mitigation Approach



Decision Box 1:

The proposed approach would classify all Class I (both "natural" and "modified") PHWH streams and Class II Modified PHWH streams as Limited Quality Waters in OAC 3745-1-05 (A)(12) for antidegradation purposes and group them with LRW and LWH streams with respect to on-site mitigation requirements. This is justified because these streams by their very nature have either no aquatic life present or an extremely limited aquatic life function. For these channels, existing use considerations that must be considered in the antidegradation context of the 401 Water Quality Certification are the potential impacts of the proposed activity on downstream water quality, water quantity, sediment-bedload transport, and habitat quality. In some settings, the influence of the proposed stream impacts on downstream water temperatures must also be considered in order to protect downstream uses.

Implementation Box A.

The concept being proposed is to acknowledge existing authorities and programs already in place to achieve the results stated in the goals above for impacts to Class I PHWH, and streams designated as LRW or LWH. Examples of these authorities include construction stormwater requirements for sediment and erosion control during construction and post-construction for development projects and linear impacts such as roads and pipelines, industrial stormwater permits for industrial sites including surface mining operations, permits issued by the ODNR Division of Mining and Reclamation governing site practices during mining operations and future site restoration requirements, operations governed by other regulatory authorities requiring best management practices for those operations such as solid waste landfill construction, etc., and conservation practices for agricultural activities under the oversight of the NRCS, county Soil and Water Conservation Districts and ODNR. In these cases, it may be fair to presume that for impacts to limited quality waters the conditions set forth by the primary regulatory authority are sufficient to adequately protect downstream water quality and beneficial uses. A system that references these authorities and requires adherence to the provisions they impose has a high probability to be sufficient in the great majority of cases to adequately compensate for the loss of function that will result from the proposed impact.

To execute this part of the proposal, the stream mitigation rule or the mitigation protocol would be revised to include a scheme for incorporating compliance with the appropriate permit requiring pollution control implementation as a term of the certification. One way of addressing this would be to draft several general 401 water quality certifications (similar to the concept of general NPDES permits) for specific activities involving Limited Quality Waters by various categories of applicants. In practice, the general certifications could also place some additional terms and conditions upon the applicant that go above and beyond the principal referenced authority where those conditions are necessary to protect downstream uses such as in cases where the activity is located in an impaired watershed or within a suspected recharge area for high quality waters such as Class III PHWH, CWH, and EWH streams. Another example would be a

requirement that the statewide water quality criteria [3745-1-04] must be met for all affected waters.

The advantages of this approach are that it minimizes the duplicate regulation of the same activity by recognizing existing authorities and programs already in place that are designed to accomplish the goal of water quality protection.

Items for discussion regarding this part of the proposal are as follows:

1. *Is this concept viable? Does it meet the spirit and letter of the ORC and CWA antidegradation requirements?*
2. *Does this approach adequately protect downstream uses? If not, what additional requirements should be considered that go beyond the existing toolbox?*
3. *Should there be thresholds, such as those found currently in the nationwide permits for cumulative impacts where non-degradation and minimal degradation alternatives analysis are required? If so, what is the appropriate threshold value?*
4. *Would certifications that rely upon other permits be enforceable from a 401 context if there is non-compliance?*
5. *Should cumulative impacts on Limited Quality Waters within a watershed allowed under this proposal be monitored and controlled to ensure that water quality is being protected in the larger context of the watershed? How would or could this occur?*
6. *How would agricultural impacts be handled? A suggestion would be to require that the farmer produce documentation from the NRCS, SWCD, or ODNR stating that Best Management Practices have been implemented to minimize downstream impacts. Would these other agencies agree to this approach? Would formalized agreements with these agencies be needed? What would the appropriate conditions be to accomplish the goals of the 401 water quality certification?*

Decision Box 2:

Under the proposed approach, Class II and Class III PHWH streams will be classified as High Quality Waters under the antidegradation rule and would be considered General High Quality Waters [OAC 3745-1-05 (A)(10)(a)]. Highly pristine PHWH streams that can be documented to possess unique values could be classified as Superior High Quality Waters, Outstanding State Waters, or Outstanding National Resource Waters under the provisions of OAC 3745-1-05 (A)(10) on a case by case basis.

Decision Box 2 separates a specific subset of Limited Quality Waters (MWH and Class II Modified PHWH) and General High Quality Waters (Class II PHWH), and allows for simplified antidegradation and mitigation procedures to be used that are protective of in-stream uses (**Implementation Boxes B and C**). Other High Quality Waters would be subjected to current antidegradation review procedures and all mitigation requirements would be determined through a complete analysis using the Mitigation Weighting Factors Procedure (**Implementation Box D**).

Decision Box 3:

Data collected in the development of the PHWH stream classification system indicates that in many cases Class II and Class II Modified PHWH streams have very similar biology. Based upon findings to date, it appears that the aquatic communities in these intermittent and perennial streams may have significant resiliency to disturbance. Likewise, biological communities in MWH streams can be expected to re-establish themselves quickly following disturbance under certain situations since these communities. The stream mitigation protocol would allow on-site mitigation of impacts to MWH and Class II PHWH streams via stream relocation when specific conditions are met.

The conditions contemplated include the reconstruction of a stream channel that is at least as long as the channel being replaced and the use of specified design criteria that will allow for the re-establishment of aquatic life and the protection of downstream uses (**Implementation Box B**). If this implementation strategy is chosen by the applicant, use of the specified design criteria would be presumed to be a minimal degradation alternative and no additional mitigation would be required. The antidegradation review for projects that select the relocation alternative as the preferred alternative will consist of a comparison of non-degradation alternatives to the relocation alternative. The director would still have the option on a case by case basis of denying the certification or imposing the non-degradation alternative.

In cases where use of the on-site relocation option is infeasible, or for other reasons is not stated as the applicant's preferred alternative, a complete antidegradation review would be required (preferred, minimal degradation, non-degradation alternatives analysis) and mitigation debit calculations would be made using simplified formulae as presented in **Implementation Box C**.

Implementation Box B:

The stream mitigation protocol would specify design criteria to provide on-site stream relocation design that accomplishes the following:

- gradient control suitable to result in a stable channel
- riparian vegetation suitable to control erosion, facilitate a stable channel, and provide for the protection of aquatic life
- adequate flood storage
- protection of downstream uses (accomplished through the above and replacement of the existing stream water quality function and suitable habitat for aquatic life sufficient to replace that of the existing (impacted) stream channel

Use of this approach will satisfy all of the stream mitigation requirements and will be considered the minimal degradation alternative for the purposes of the antidegradation review. For all cases where the antidegradation demonstration by the applicant is sufficient to justify the impact, this option will be the standard for mitigation for this category of impact. This approach will only be allowed in circumstances where the length of the relocated channel equals or exceeds the length of proposed impact. For

all other proposed impacts to Class II PHWH and MWH streams that cannot be addressed to fulfill these requirements, the modified Mitigation Weighting Factor Procedure described in Implementation Box C will be used to calculate debits.

Items for discussion:

1. *For cases where an on-site relocation can be provided but where the length of the replacement channel is less than the length of impact, should the debit calculation only include the difference between the impacted length and the replacement length? (this would mean that the mitigation credit calculation form would not need to be completed for the replacement channel). The alternative would be to provide a simplified methodology to calculate the credit value of the replacement channel, such as that provided in Box C.*
2. *Are all streams in these categories suitable candidates? If not, can specific characteristics (watershed size, gradient, stream power, etc.) be identified where this option would apply?*
3. *What are the appropriate design criteria for this approach?*
4. *Should there be a requirement for permanent protection for the replacement channel, or would we allow future impacts (relocations, etc.) to occur if the site use changes in the future?*
   Note: see ORC 6111.30 (A)(4).
5. *Are special conditions required for different land use impacts (surface mining vs. parcel development vs. linear projects vs. agricultural impacts?)*
6. *What would be the appropriate monitoring requirements for these replacement channels during the post-construction period?*
7. *What allowances should be made for placement of road or utility crossings along the relocated channel?*

<u>Implementation Box C:</u>

For projects impacting Class II PHWH and MWH streams where the on-site relocation replacing or exceeding the existing stream length is not possible, stream impact debits would be calculated using a simplified procedure as follows:

For Class II PHWH and MWH: Debits = 3.0 X LF Impact

For Class II Modified PHWH: Debits = 2.0 X LF Impact

Appropriate off-site mitigation sufficient to generate enough mitigation credits to offset the debits calculated would be required. The credit calculations for mitigation would be made using the same methodology as for impacts to other General High Quality Waters (**Implementation Box D**).

Items for Discussion:

1. *See item #1 for Implementation Box B above.*

Implementation Box D:

For all categories of High Quality Waters with aquatic life use designations or existing uses meeting the definitions of Class III PHWH, WWH, EWH, CWH, and SSH the impact debit and mitigation credit calculations will follow the Mitigation Weighting Factor Procedure.

Items for Discussion:

1. *Are special conditions needed for the use of the protocol based upon the varying categories of impact that are not already recognized in the methodology? (For example, a reasonable provision for certifications involving surface mining activities might be to calculate post-reclamation stream credits that would result from site restoration following the cessation of production. Since the mining permit requires a site restoration plan and financial assurances to complete these activities, the resulting stream channel design could be scored and credited at a discounted credit ratio – perhaps 80% - to account for the time where stream uses will be lost. The mitigation credits required for the project would then be the difference between the impact debits and the future post reclamation credits. Other similar opportunities may exist for specific impact categories.)*
2. *How would antidegration procedures vary between the various categories of High Quality Waters (economic and public need demonstrations)? This should be clearly spelled out in the revised rules.*