

A Discussion of Environmental Mitigation: Phase 1 Report

This report provides the following:

- 1) Documentation of work completed for "OKI Discussion of Environmental Mitigation"
- 2) Results of State-Agency Consultations on Environmental Mitigation
- 3) Outline of tasks for finishing an "OKI Discussion of Environmental Mitigation"

December, 2009

Prepared by the Ohio-Kentucky-Indiana Regional Council of Governments

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Table of Contents

1. Introduction to a Discussion of Environmental Mitigation
New Requirements for Regional Transportation Planning
The Process of "Environmental Mitigation"
Environmental Mitigation as a Project-level Consideration
Environmental Mitigation at a Regional Level
2. Status of OKI Discussion of Environmental Mitigation
Phase 1: State-Agency Consultations
Phase 1: Information Base
Phase 2: Completion of OKI Discussion
3. Results of Phase 1 State-Agency Mitigation Consultations
Issue 1: Sites Selected for Mitigation
Issue 2: Inter-Agency Coordination in Mitigation-Site Selection
Issue 3: A Model Mitigation Process
Issue 4: In-Lieu-Fee Mitigation
Issue 5: Mitigation Banks
Issue 6: Other Mitigation Strategies "Regional in Scope"
Issue 7: Resources Considered for Mitigation
Issue 8: Mitigation to "Maintain" vs. "Restore"
Issue 9: Mitigation Areas with "Greatest Potential"
Issue 10: Mitigation Strategies with "Greatest Potential"

List of Appendices

- A. Federal Requirements for a Discussion of Environmental Mitigation
- B. State Agency Participants in OKI Consultations
- C. Kentucky's Approach to Mitigation (notes in preparation for mitigation consultations)
Kentucky Transportation Cabinet / Mitigation of Highway Project Impacts
Kentucky Mitigation Fund / Mitigation of Impacts on Streams and Wetlands
Northern Kentucky Stream and Restoration Fund
Mitigation in the OKI Region
- D. Indiana's Approach to Mitigation (notes in preparation for mitigation consultations)
INDOT Mitigation of Highway Project Impacts
Selection of Mitigation Sites
INDOT Website
Volunteer Mitigation Sites
Indiana Wetlands Conservation Plan
State Agencies / Mitigation of Impacts on Streams and Wetlands
Compensatory Mitigation for Wetlands
Role of Indiana Department of Environmental Management/IDEM
Role of Indiana Department of Natural Resources/IDNR

- Indiana Register's Natural Resource Commission Information Bulletin#17(includes mitigation ratios)
- Evaluation of Compensatory Mitigation for Wetlands
- Waterways Permitting Handbook
- In lieu fee programs
- Inter-agency Coordination
- Mitigation Banks
- Tracking of Mitigation
- Mitigation Sites in Dearborn County
 - Mitigation of Impacts of SR 48 Extension in Lawrenceburg
 - Mitigation of Impacts of Casino Development on Oxbow Wetlands
 - Sites Evaluated in Studies of Wetland Compensatory Mitigation

E. Ohio's Approach to Mitigation (notes in preparation for mitigation consultations)

- OEPA Structure for Mitigation Activities
 - 401 Water Quality Certification and Wetland Section
 - Environmental Mitigation and Special Permitting Section
- Mitigation Process for Highway Project Impacts
- Ohio Department of Transportation
 - ODOT Project Development Process
 - Ohio Environmental Protection Agency
 - Stream and Wetland Mitigation Opportunities Inventory Report / SWMOI Report
- Mitigation Site Selection
 - In-kind Mitigation
 - On-site Mitigation
 - Mitigation Clearinghouse
 - Mitigation Banks
 - In Lieu Fee Program
- Mitigation of Wetland Impacts
 - Isolated Wetlands
 - Wetland Water Quality Standards
 - Wetland Anti-degradation Rule
 - Wetland Mitigation Categories and Requirements
 - Requirements for Mitigation Locations
 - Monitoring and Protection of Mitigation Project
 - Compensatory Mitigation Options
 - Wetland Index of Biological Integrity / Wetland IBI
 - Ohio Rapid Assessment Method (ORAM)
 - Ohio Wetland Restoration and Mitigation Strategy Blueprint, 1999*
 - More notes relevant for consultations
- Mitigation of Impacts on Streams and Other Resources
 - Stream Mitigation
 - Waterway Permits Manual (ODOT)
 - Lake Mitigation
- Mitigation in OKI's Ohio Counties
 - SWERP Clearinghouse Sites
 - Mitigation Banks
 - Mitigation Project Locations
- Considerations for Consultations

F. Preliminary: Federal Agencies for Potential Participation in Mitigation Consultations

G. Mitigation Processes for Wetlands by State

H. Notes from State-Agency Mitigation Consultations, Phase 1

Section 1

Introduction to a Discussion of Environmental Mitigation

As part of its regional transportation planning process, OKI is to develop a Discussion of Environmental Mitigation for considering potential mitigation strategies and areas for their application that are regional in scope and may have the greatest potential to restore and maintain the region's environmental resources. The OKI Discussion is to be developed in consultation with appropriate federal and state agencies. A preliminary and partial beginning of an introduction to that Discussion is presented in this section.

New Requirements for Regional Transportation Planning

Recent federal legislation includes two new requirements for regional transportation planning.

One requirement is for agencies like OKI to develop a "Discussion" of types of potential environmental mitigation activities and potential areas to carry them out. "Activities" are to be strategies that may offer the greatest potential to restore and maintain environmental functions and are regional in scope. OKI is to develop this Discussion in consultation with federal and state land management, wildlife, and regulatory agencies.

The other requirement is for regional transportation planning to include consultations with state and local agencies on the development of the plan. These consultations are to involve a comparison of the transportation plan with state conservation plans, maps, and inventories. The resources identified in state conservation plans, maps, and inventories are regionally-significant for conservation.

These two new requirements increase consideration of environmental effects as part of OKI's regional transportation planning process. The consultations that involve "a comparison..." provide opportunity for considering how to avoid or reduce effects on regionally-significant environmental resources. The Discussion of Environmental Mitigation provides opportunity for considering how mitigation may be used to restore and maintain regionally-significant environmental resources.

Regulations 23 CFR Sec 450.322 (f) and (g) are provided in Appendix A.

The Process of "Environmental Mitigation"

"Environmental mitigation" is a process for avoiding, minimizing, or compensating for adverse environmental impacts on natural resources or their functions. It is a sequential process: where avoidance and minimization are not practicable, then impacts may be offset or compensated.

Environmental mitigation is required to be considered for projects that use federal funds and have adverse impacts on certain natural resources or environmental functions. ...

"Mitigation" may refer to "compensatory mitigation," which is the third step of the environmental mitigation process that involves compensating for a project's adverse impacts. A

“mitigation project” is the project that compensates for the impacts of a construction project; a “mitigation site” is the site of the project that compensates for the impacts of another project.

Mitigation often involves restoration of a site or environmental function. To compensate for a project’s environmental impacts, mitigation provides improvements elsewhere at the project site (onsite mitigation) or a different site (offsite mitigation). These improvements may involve restoration or the creation of a comparable resource type or the enhancement or preservation of resources. The “improvements” are to replace or provide substitutes of “like value” for the damaged natural resources or environmental functions.

Environmental Mitigation as a Project-level Consideration

Environmental mitigation is integrated into transportation planning at the project level. As part of the process of project planning and design, an environmental assessment is conducted to identify potential adverse impacts. Processes are established for considering how those impacts can be avoided, minimized, or compensated for.

For transportation projects, avoidance is generally not a feasible option for mitigation. Once a transportation project is recommended in a regional plan, the opportunity to avoid environmental impacts is subsidiary to addressing transportation need. State review procedure clarifies that a no-build alternative that “would result in no direct impacts to streams and wetlands ... is not practicable because identified project purpose and transportation needs in the project area would not be met.” (*Waterways Permits Manual*, Ohio Department of Transportation, Page 52)

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Environmental Mitigation at a Regional Level

The new requirements for regional transportation planning represent new strategy for addressing national environmental policy. National policy calls for stewardship – with each generation as trustee of the environment for succeeding generations – and a sustainable environment balanced with other needs of present and future generations (National Environmental Policy Act of 1972). Strategies for implementing environmental policy have not prevented the effects of development from diminishing natural resources in metropolitan areas....

A major strategy for implementing national environmental policy involves considering the environmental effects of projects that use federal funds. Policy calls for consideration early on in decision-making, but regulations result in consideration during project development. The Environmental Impact Statement is an outcome of these regulations, cited as costly and ineffective. Implementing strategies are also embedded in laws for clean air, clean water, and endangered species, but progress in reducing pollution has not prevented the adverse environmental effects of development.

The Federal Highway Administration supports national environmental policy. Its policies call for integrating environmental considerations into every phase of transportation decision-making and for “incorporation of ecological considerations early in the transportation system planning

and development process." As time has revealed the cumulative environmental effects of transportation improvements, metropolitan transportation planning factors have been strengthened from "account for the overall environmental effects of transportation decisions" to the current "protect and enhance the environment." Recent requirements make transportation planning more proactive as a means of protecting the environment.

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Section 2

Status of OKI Discussion of Environmental Mitigation

The OKI Discussion of Environmental Mitigation is being developed in two phases. In the first phase, OKI initiated consultations with state agencies and developed base information on federal and state mitigation processes.

The work accomplished in Phase 1 will be used for completing the OKI Discussion in Phase 2. The information on mitigation from initial state-agency consultations will be used to design federal and additional state agency consultations. The base information has been used for designing the initial state-agency consultations and will be used for completing the OKI Discussion. The shift from Phase 1 to Phase 2 is a shift from learning about mitigation process that are relevant for developing a Discussion of Mitigation to structuring a Discussion on potential mitigation strategies that address federal regulations.

Phase 1: State-Agency Consultations

OKI initiated state-agency consultations on mitigation as part of its consultations on the development of the transportation plan (see OKI document under separate cover: *Results of State-Agency Consultations*, 2009). This first phase of state-agency consultations involved five sessions in which ten state agencies participated. A list of participating agencies and the consultations schedule are provided in Appendix B.

State agencies discussed environmental mitigation in response to OKI questions. OKI crafted questions for each session to account for state differences in mitigation processes and OKI's overall understanding of mitigation and federal requirements, which increased with each session.

The scope of discussion expanded as the sessions progressed, moving from consideration of how mitigation has occurred in the OKI Region to broader consideration of the potential for strategies to be regional in scope. The first session focused on locations of actual and potential sites for restoration/mitigation in the OKI Region; the final session included discussion of mitigation processes with regional implications.

The information resulting from state agency discussions varied greatly, due partly to differences in OKI questions per session. Discussion was sometimes limited by time constraints, since mitigation was discussed at the end of each consultation session. The state-agency consultation sessions are summarized below.

- The first session involved Ohio conservation agencies for wildlife and natural areas. The mitigation discussion focused on areas where the state has been involved in restoration in the OKI Region or perceives restoration needs.
- The second session involved Kentucky conservation and environmental regulatory agencies. The intent was to focus on the mitigation process for Kentucky transportation projects – which is a model for a mitigation process “regional in scope” – and the Mitigation Fund for

northern Kentucky that is used for identifying and addressing restoration needs. The discussion was limited by the inability of regulatory staff to stay for the entire session, but OKI improved its understanding of Kentucky mitigation processes and regional mitigation options.

- The third and fourth consultation sessions involved Indiana conservation and environmental regulatory agencies, respectively. Discussion focused on mitigation sites and selection, the Kentucky mitigation processes, and views of mitigation's effectiveness. Discussion was limited but provided valuable new insight.
- The fifth and final consultation session took place with Ohio's regulatory agency for environmental protection. This discussion – and the information collected in preparation – greatly expanded OKI understanding of potential mitigation options and issues for future consultations.

Information provided from state-agency consultations, in combination with information collected to prepare for them, will be used to design upcoming consultations with federal agencies and additional consultations with state agencies. The initial state-agency consultations have contributed information for inclusion in the OKI Discussion document and brought state conservation and regulatory agencies and OKI into a dialogue for adding regional perspective to state policy and increasing environmental considerations in transportation planning.

The information from initial state-agency consultations is presented in Section 3 of this document, along with indications of how it will be used to shape the next round of consultations.

Phase 1: Information Base

OKI collected and reviewed base information on how federal and state agencies conduct environmental mitigation. This includes information on federal and state mitigation regulations, programs, and policies and how these are implemented by a range of federal and state agencies. This base information is the foundation for designing and developing a Discussion of Environmental Mitigation.

The base information has three major components.

- Information to prepare for the state-agency consultations on mitigation is contained in Appendices C, D, and E for Kentucky, Indiana, and Ohio, respectively. The appendices contain information in the format in which it was used (additional information was collected that is not presented here but may be used in the final OKI Discussion). The appendices indicate the extent of information and range of issues for which data was collected and the differences in state mitigation processes.
- Federal agencies identified as potential participants in consultations and initial contact information are provided in Appendix F. Since this list was developed, additional information has become available that is not included in the appendix. Appendix F will be updated and used to finalize a list of federal agency contacts for participation in OKI consultations.

- Additional information collected as a basis for understanding mitigation processes and determining how to address the transportation planning requirement were collected that are not included in this document. This base information includes policy documents, guidance, and regulations for mitigation related to specific resources (wetlands, streams, farmland) and programs (404 permits, isolated wetlands permits, 401 certification) and agencies (Federal Highway Administration, U.S. Army Corps of Engineers, state transportation departments). As an indicator of the scope of information for wetlands, Appendix G contains a summary table of *Mitigation Processes for Wetlands by State* (summarizes federal and state provisions for mitigating wetland impacts, primarily in response to Clean Water Act Sections 404 and 401).

Base information will be used for completing the OKI Discussion in Phase 2, both for designing the federal and additional state agency consultations and for providing background information and context within the document pertinent to a discussion of potential mitigation strategies for the OKI Region.

Phase 2: Completion of OKI Discussion

OKI will be completing a Discussion of Environmental Mitigation in accord with federal requirements. The Discussion will focus on

- potential sites or resources for restoration that may have the “greatest potential to restore and maintain environmental functions...” and
- potential mitigation strategies, policies, and programs that are regional in scope and may have the “greatest potential to restore and maintain environmental functions...”.

The Phase 2 work for completing the Discussion will include consulting with federal and state agencies and collecting additional base information (for preparing for consultations and completing the Discussion document). The base information developed in Phase 2 work will include refinements to existing information to clarify:

- differences in state perceptions of potential mitigation strategies,
- differences in federal agency involvement in state mitigation processes (roles of U.S. Army Corps of Engineer Districts, U.S. Fish and Wildlife Service Division regional offices and state field offices, National Park Service, U.S. EPA Region), and
- opportunities and limitations posed by federal regulations for mitigation banks and in-lieu-fee mitigation, which are major keys to mitigation strategies with the greatest potential to be regional in scope.

Major tasks for completing the OKI Discussion of Environmental Mitigation and indications of the work involved are provided below. These major tasks are numbered, but the development of an OKI Discussion is not a linear process and work tasks are not necessarily sequential. Phase 2 is an iterative work process (like Phase 1) in which “information learned” is to help determine “information needed” for considering potential mitigation options.

1. Determine which agencies are to be involved in federal consultations.

Comments: Much of the groundwork has been laid for this task, but additional work is needed. Based on past experience, the list cannot be completed until agencies are contacted.

2. Determine the process to be used for federal and additional state agency consultations.

Comments: At this time, the thought is to arrange for one multi-agency consultation per state that brings federal and state agencies together. It may be practical to arrange these consultations through each state's inter-agency group for mitigation banking, but additional work is needed to determine if membership and responsibilities make these groups appropriate to target for consultations. If a multi-agency consultation is not suitable, then the consultations may involve more phone and/or email correspondence and less face-to-face time than in the first phase. Another factor in designing the consultations process involves contacting staff with the U.S. Fish and Wildlife Service in response to an earlier letter inquiring about a meeting (2007).

3. Develop questions to guide discussion relevant for each state.

Comments: The results of the first phase of state-agency mitigation consultations has been used to define the scope of the next round of consultations and outline preliminary questions, as presented in Section 3 of this document. The scope and questions need to be refined (based on considerations outlined at the beginning of this section), particularly for crafting questions most suitable to each state.

4. Develop a stream-lined and updated version of the OKI consultations map.

Comments: The OKI consultations map identifies regionally-significant areas and resources for conservation based on their identification in state conservation plans, maps, and inventories. The map is relevant for discussing mitigation strategies for "where" they may have "the greatest potential to restore and maintain environmental functions" and provide benefits "regional in scope." Previous consultations have indicated the need to update information in some map categories and the potential to combine three map categories for facilitating graphic presentation.

5. Develop standard background and/or explanatory information for use in contacting agencies to request participation in consultations and for opening the consultations sessions.

Comments: The "standard information" developed for the first phase of consultations was invaluable for expediting meeting arrangements and insuring that all participants had similar understanding of OKI and the intent of the consultations process.

6. Compile the comments from all consultations into one document.

Comments: This is a major step for facilitating development of the Discussion of Environmental Mitigation document.

7. Develop a full "OKI Discussion of Environmental Mitigation."

Comments: Use the compiled comments from consultations and information collected on federal and state mitigation for developing a document that discusses potential environmental mitigation strategies in response to federal requirements.

The preceding tasks will involve collecting additional information on federal and state mitigation. Some more current and more comprehensive information is needed for completing the remaining consultations and the Discussion document. Information collection will be integrated into preceding tasks and guided by the following considerations.

- The OKI Discussion document is to be developed for understanding by individuals who are not involved in mitigation processes but are involved in planning, developing public policy, or land use decision-making. The OKI document may discuss the value of mitigation strategies that are regional in scope, the connection between mitigation needs and transportation and land use planning, and the pros and cons of potential environmental mitigation strategies.
- The information collected in Phase 2 will be geared toward completing the OKI consultations and Discussion, in contrast with information collected in the first phase to develop understanding of mitigation and a process for addressing the requirement. It is not the intent to fully identify or describe federal and state mitigation processes or site selection criteria or close the gaps in data collected in Phase 1.

Section 3

Results of Phase 1 State-Agency Mitigation Consultations

The results of initial state-agency consultations are presented by “discussion issue” in this section and by session in Appendix H. The process for the consultations is described in the preceding Section 2.

The following “discussion issues” are themselves an outcome of the initial state-agency mitigation discussion. OKI mitigation questions varied from session to session (see Section 2 and Appendix H). The “discussion issues” provide a basis for reporting the mitigation discussion resulting from varied questions and are also expected to be used for guiding federal and additional state-agency consultations.

For each discussion issue, the consultations results are presented in four parts:

- The Issue, which provides background information on the “discussion issue,”
- Phase 1 Findings, which are key outcomes of the initial state-agency consultations,
- Phase 2 Considerations, which indicate additional issues or information for considering the discussion issue more fully in the future consultations, and
- Phase 1 Discussion, which documents the questions and responses that are the basis for the preceding Findings and Considerations.

The discussion issues used for presenting the results of the first phase of state-agency consultations are as follows:

- 1) Sites Selected for Mitigation
- 2) Inter-Agency Coordination in Mitigation-Site Selection
- 3) A Model Mitigation Process
- 4) In-Lieu-Fee Mitigation
- 5) Mitigation Banks
- 6) Other Mitigation Strategies “Regional in Scope”
- 7) Resources Considered for Mitigation
- 8) Mitigation to “Maintain” vs. “Restore”
- 9) Mitigation Areas with “Greatest Potential”
- 10) Mitigation Strategies with “Greatest Potential”

Issue 1: Sites Selected for Mitigation

The Issue

The locations of mitigation sites have financial as well as environmental implications. Mitigation sites are areas of investment for restoring, improving, and protecting natural resources and their functions. The investment involves both an initial cost for a mitigation project and

additional costs for monitoring and continued maintenance to protect the initial investment in perpetuity.

Mitigation site locations are partly determined by federal and state requirements. Requirements may govern the location of the mitigation site in regard to...

- proximity to the site of impact/the site for which environmental effects are to be compensated (related to watershed at an HUC-level),
- potential to provide in-kind mitigation (to replace a resource with a similar type of resource, such as wetland for wetland or pond for pond, and a resource of comparable function and value);
- size as defined by mitigation ratios, and
- suitability for monitoring and long-term maintenance.

Existing mitigation sites may or may not be good indicators of area suitable for additional mitigation. Where mitigation sites are small and dispersed, the investment may not be cost-effective financially nor able to successfully restore or improve environmental functions. Where existing mitigation sites help conserve a functional resource, however, they may indicate priority areas for additional mitigation. As stated in consultations, it is cheaper to protect resources that are functioning than to re-create functional resources elsewhere.

Local mitigation sites were partly identified in preparation for initial state-agency consultations (Appendices C, D, and E and the *Annual Report of Northern Kentucky Stream and Wetland Restoration Fund Projects, FY 2007-2008*, NKU's Center for Applied Ecology). The region's mitigation sites do not necessarily offer high potential to restore or maintain regionally-significant environmental functions. Sites identified for potential mitigation in the Ohio counties in the OKI Region are concentrated based on listing organizations rather than environmental needs (of 20 sites listed in Ohio EPA's Surface Water Enhancement, Restoration and Protection Clearinghouse/SWERP Clearinghouse, 18 are in Clermont County).

Phase 1 Findings

- Mitigation sites are dispersed throughout the OKI Region. Sites are commonly selected on a case by case basis as needed to offset a project's impacts.
- Each mitigation site needs improvement or restoration, but the cumulative benefit of restoration efforts is dispersed.
- State conservation agencies have not developed lists of proposed or potential sites for mitigation/restoration. Ohio and Indiana make lists available to project sponsors with potential mitigation sites as proposed by individuals or organizations. The sites may meet state criteria but are not endorsed or recommended. The sites may warrant restoration but do not necessarily have the "greatest potential" to restore or maintain environmental functions. (For example, a proposed site would stabilize a stream bank; a site with "greatest potential" would stabilize the bank of a stream that provides habitat to an endangered species.)

Phase 2 Considerations

- Several state agencies have information available that could be used to identify and map the locations of sites where mitigation/restoration has occurred in the OKI Region (may not be a high priority).
- Are regulatory agencies interested in having lists of potential mitigation sites – or lists of priority sites -- for state transportation departments and other mitigation project sponsors?
- In preparing for future consultations, it may be appropriate for OKI to develop a more comprehensive understanding of what is required for site selection and what options can be considered by state agencies or project sponsors for selecting a site. OKI does not need to understand the details of each state's mitigation requirements, but it would be helpful to have a checklist/matrix that identifies the major criteria used by each state for approving mitigation sites.

Phase 1 Discussion (OKI questions are in italics, followed by state agency responses)

Q Would you know where the state has already made investments to restore environmental resources or functions in the OKI Region? ... where restoration has already occurred?

- In Ohio, for bank stabilization along the Little Miami River in Anderson Twp. (park site), at Lake Isabella (county park), and in Milford
- In Kentucky, at Adair Wildlife Management Area to restore a channelized stream section, Big Bone Creek in state park (200' of bank stabilization, 24 acres riparian forestation), and for Banklick Creek
- In Indiana/Dearborn County, there are mitigation sites for a flyash site, a boat ramp, and U.S. 50 bridge expansion (IDNR Division of Fish and Wildlife provided maps of selected mitigation sites; contacts were suggested for mitigation sites for wetlands and restoration).
- Areas where money that has been spent for land acquisition by conservation agencies or organizations are areas where money has been spent for mitigation of human impacts. Because money has been spent for protection/preservation, the resource has a higher priority. "Money spent" raises the bar because additional money capitalizes on -- or optimizes -- the investment.

Q Has your agency identified resources or areas in our region that need restoration? Would there be any list of restoration needs? Do you have suggestions on the best use of restoration funds in our region if they were available?

- Kentucky agencies would like to see projects that would affect Gunpowder Creek, and the Licking River.
- In Indiana/Dearborn County, the mitigation site is generally on the same stream or in close proximity to the project site, but it would be better if the mitigation site were close to state conservation agency property [to facilitate long-term management]. Early coordination in selecting mitigation sites would be helpful.
- The Kentucky State Nature Preserves Commission has proposed developing a State Preserves list to provide restoration; there is a need for preserves to protect natural communities in Gunpowder Creek watershed.

- Ohio EPA developed the Surface Water Enhancement, Restoration and Protection Clearinghouse (SWERP, formerly the Mitigation Clearinghouse) that identifies potential mitigation sites listed by individual landowners or agencies because the agency did not know of any other list of potential mitigation sites. Opportunities to list sites may be mentioned at 319 workshops (possible explanation of the concentration of sites within the OKI Region). The state regulatory agency for environmental protection is not aware of any state lists of restoration needs.
- Conservation agencies are more focused on protection or preservation than on restoration. If the request is for a target for mitigation funds, they would look at acquisition of a corridor for protection rather than a site for restoration (Ohio).

Issue 2: Inter-Agency Coordination in Mitigation Site-Selection

The Issue

Conservation agency involvement in mitigation site-selection is relevant for discussing potential mitigation strategies with “the greatest potential to restore and maintain” environmental functions. Conservation agencies can provide perspective on site value for conservation and environmental functions. Conservation agencies may also provide perspective on financial costs for maintaining mitigation sites (in one session, it was noted that the state transportation department is the single biggest applicant for compensatory mitigation but does not want to manage sites; the mitigation sites are managed by the state Department of Natural Resources). The federal requirement for the Mitigation Discussion requires consultations with land management and wildlife agencies in addition to regulatory agencies.

Phase 1 Findings

- State conservation and regulatory agencies coordinate with each other and with state transportation agencies in numerous ways, but state conservation agencies have little involvement in the selection of mitigation sites.
- For transportation projects in Ohio and Indiana, the state transportation department or the project sponsor may select the mitigation site. Both states make lists available to project sponsors with potential mitigation sites that are proposed by property owners (individuals or organizations) but that are not proposed, endorsed, or recommended by state agencies.
- In Kentucky, the transportation cabinet has involved the U.S. Fish and Wildlife Service in selecting mitigation sites for highway projects in a process that the Federal Highway Administration cites as an “Exemplary Ecosystem Initiative.”
- For non-transportation projects, state conservation agencies are involved in environmental review and may be involved in developing mitigation projects, but they do not seem to have responsibility for selecting mitigation sites.

Phase 2 Considerations

- In preparing for future consultations, OKI may review the information it has already collected to clarify current arrangements for coordinating state transportation, conservation, and regulatory agencies and the type of work that is coordinated. This may provide a basis

for determining how to inquire about the potential for involving conservation agencies more effectively in mitigation site selection.

Phase 1 Discussion (OKI questions are in italics, followed by state agency responses)

Q Are your agencies involved in proposing or selecting mitigation sites for transportation projects?

- In Indiana, the conservation agencies are trying to become involved; staff with the Department of Environmental Management are involved in INDOT's mitigation process but not in site selection.
- In Ohio, conservation agencies are involved in ODOT's environmental assessment of transportation projects. For selection of mitigation sites, ODOT "pretty much does its own work."

Q How are decisions made for where mitigation occurs / for the locations of mitigation projects?

- In Indiana, the project sponsor/consultant looks for mitigation sites. The Indiana Department of Fish and Wildlife's main criteria for coordination is under its regulatory authority (Flood Control Act, which applies to any stream with a drainage area of one square mile or more, with the result that mitigation does not occur for projects on headwater streams). Indiana has a website for Volunteer Mitigation Sites: sites can be proposed by individuals.
- The Indiana Department of Natural Resources, Watershed Planning Branch, identifies the areas for compensatory mitigation (for INDOT projects) and manages the mitigation sites (IDNR is a land-holding agency). IDNR has identified areas they would like to use for mitigation sites, but anyone can get on the list the agency uses (e.g., farmers with a site too wet to be farmed may want the site to revert to wetland). (See website for Voluntary Mitigation Sites).

Q Do you have any comments on how sites selected for mitigation might fit with your agency's conservation priorities?

- The Kentucky State Nature Preserves Commission is sometimes asked for potential sites for restoration/mitigation in a particular watershed by the U.S. Fish and wildlife Service (for mitigation by the Kentucky Transportation Cabinet) and NKU's Center for Applied Ecology.

Q The Louisville District of the Army Corps of Engineers has jurisdiction in part of our region, but ODOT's Waterways Permit Manual identifies the Huntington District as having jurisdiction over the Great and Little Miami River watersheds. Can you clarify this for us? (maybe applies just for mitigation of transportation projects; the Ohio Regulatory Transportation Office /ORTO is a field office for the Huntington Corps District... works exclusively on 404 permits and jurisdictional determinations for all ODOT projects regardless of Corps district boundaries)

The Louisville District does regulatory work just along the Ohio River (Huntington District covers the rest of our region). ODOT works only with the Huntington District.

Additional discussion of coordination but not related to selection of mitigation sites.

- The state regulatory agency does not use state conservation agency data, but the two agencies do coordinate. The regulatory agency involves the conservation agency in the evaluation of all permit applications; it copies IDEM conservation agency staff and takes account of information such as spawning locations and timing, bat habitat, rare species, etc. The agencies meet monthly.
- The state transportation agency has a copy of the Natural Heritage Database and also contacts the Data Manager, so there are two levels of environmental review, one by the state transportation

agency and one by the state wildlife conservation agency. ... Usually, most of the design work (40-80%) is done prior to conservation agency review, so the project is already far along.

- The state transportation agency has a central and district office, and the district offices are fairly autonomous; relationships with the conservation agency have improved over the years.
- The Indiana Department of Environmental Management does not influence which projects are developed but does influence place and provisions for compensatory mitigation. Indiana Department of Transportation is the single biggest applicant for compensatory mitigation but does not want to manage mitigation sites. Indiana Department of Natural Resources manages the mitigation sites.

Issue 3: A Model Mitigation Process

The Issue

The Kentucky Transportation Cabinet delegates mitigation site selection to the U.S. Fish and Wildlife Service, which identifies sites for habitat restoration for species at-risk. Mitigation projects support species recovery in addition to supporting wetland or riparian functions. This strategy is commended by the Federal Highway Administration for helping to preserve the state's "Greatest Potential" ecosystems.

Phase 1 Findings

- The Kentucky Transportation Cabinet has a mitigation process that's considered as "Exemplary" by the Federal Highway Administration (2005).
- Ohio and Indiana agencies are not familiar with the Kentucky Transportation Cabinet's mitigation process.

Phase 2 Considerations

- How do the state and federal agencies involved in the Kentucky Transportation Cabinet's mitigation process regard the program? Would they recommend this program for other states? Would they suggest any changes to the current program? Do these agencies consider the mitigation fees involved in this process to be reasonable?
- In preparing for future consultations, OKI may review and update information on the Kentucky Transportation Cabinet mitigation program (a contact is suggested by Kentucky Department of Fish and Wildlife Resources).
- Are state and federal agencies involved in Ohio and Indiana transportation project mitigation processes interested in considering the Kentucky Transportation Cabinet's mitigation process?

Phase 1 Discussion (OKI questions are in italics, followed by state agency responses)

Q The Kentucky Transportation Cabinet has a mitigation process that is cited as Exemplary by the Federal Highway Administration. It involves the U.S. Fish and Wildlife Service in identifying potential mitigation sites.... For Kentucky: Are any of your agencies involved in the Transportation Cabinet's

mitigation process? For Indiana and Ohio agencies: Are you familiar with this program? I Have you heard of this process?

- Kentucky conservation agency provided contact information for discussion with the state transportation agency (502-695-0468, Phil D'armo; may also check website for contact)
- In Indiana, the U.S. Fish and Wildlife Service may be involved in a project on I-69 because of impacts to habitat for the Indiana bat.
- Ohio Environmental Protection Agency staff involved with mitigation are not familiar with the KYTC process: "This is news." (OKI provided a website with FHWA summary to two staff with major responsibility for mitigation processes.)

Issue 4: In-Lieu-Fee Mitigation

The Issue

Kentucky allows applicants for 404 permits to pay a fee to the U.S. Army Corps of Engineers instead of implementing a mitigation project. In the Kentucky counties in the OKI Region, these mitigation fees are paid into a Stream and Wetland Restoration Fund (Stream Fund). The Northern Kentucky University Research Fund manages this fund and makes payments to the NKU's Center for Applied Ecology. The Center (CAE) identifies needs and opportunities for stream and wetland restoration and implements restoration projects approved by the U.S. Army Corps of Engineers and the state's Interagency Review Team.

As of June, 2008, the Center was responsible for 16 stream and wetland restoration projects that involved more than 22 cumulative miles of streams and project costs exceeding \$8 million. Its recent annual report states that the CAE is taking a "proactive approach to project selection by examining the locations of significant ecological resources, state agency priorities for conservation and protection, and impairments to streams," which suggests mitigation strategy that is regional in scope with "greatest potential to restore and maintain" environmental functions."

Phase 1 Findings

- Information on mitigation projects is available for Kentucky counties in the OKI Region that provides a basis for discussing financial and environmental implications of current mitigation strategy and the effects of current development trends and policy.
- The use of in-lieu-fee mitigation provides a means to mitigate impacts collectively rather than case-by-case, so that environmental benefits can be optimized.
- The use of in-lieu-fee mitigation provides an opportunity to develop mitigation strategy that offers the "greatest potential to restore and maintain" environmental functions of regional significance.
- Ohio and Indiana have reservations about accumulating funds from in-lieu-mitigation fees and have discouraged the use of these fees.

- The U.S. Army Corps of Engineers has a major role in determining the use of this strategy.
- ODOT may be interested in the use of in-lieu fee mitigation.

Phase 2 Considerations

- Do Ohio, Indiana, and federal agencies have any interest in considering a greater use of in-lieu fee mitigation?
- Review federal rules for in-lieu-fee mitigation that were adopted in 2008.

Phase 1 Discussion (OKI questions are in italics, followed by state agency responses)

Q Kentucky has an Environmental Mitigation Fund for stream and wetland restoration projects, and it's funded with in-lieu-mitigation fees paid to the Corps. Do you have any comments on the pros or cons of in-lieu fee mitigation?

- In Indiana, there is a memorandum of understanding with INDOT that allows for a fee to be collected (\$1500 per acre) and paid to IDNR's Department of Fish and Wildlife if mitigation cannot occur at recommended ratios. The Director of Water Enforcement Section oversees the fund, but the money has not been spent. There is concern that a greater use of in-lieu fee mitigation would result in the growth of a dedicated fund that would not be used or would be diverted for other uses.
- In Ohio, in-lieu-mitigation fees are generally not used. A couple of projects have involved in-lieu-mitigation fees, but the use of fees is not encouraged due to a lack of ODOT was interested in the development of in-lieu-fee mitigation and worked with the Corps, but they could not settle on a process.

Q Is the use of in-lieu-fee mitigation determined by states or by District offices of the Army Corps of Engineers?

- New federal rules take into account in-lieu fee programs; the rules came out in 2008.

Issue 5: Mitigation Banks

The Issue

Mitigation banking is the federally preferred strategy for mitigating adverse impacts on the environment that cannot be avoided or minimized. Banks are especially suited to mitigating impacts that are cumulative, secondary (indirect), or spread over several sites, which makes them well suited for mitigating transportation plan impacts. Banks can be established by approval of a federal regulatory agency and by agreement on procedures. They must be established prior to allowing unavoidable impacts by a project.

Banks generate credits from creating, restoring, enhancing, or preserving the bank site's environmental value or functions. Credits are drawn down (sold) to offset environmental damage at other locations. Banks are usually established for in-kind compensation to achieve functional replacement (e.g., wetland banks mitigate impacts to wetlands), but they can be established to provide out-of-kind mitigation.

A bank's service area, which represents the area for which the bank provides compensation for impacts, is typically defined by watershed or eco-region boundaries, but banks can be large scale operations (Florida has a 1,000 acre upland bank for off-setting anticipated highway impacts to protected species). Federal policy supports mitigation site locations away from developed area for their potential to enhance ecosystem performance and allow for better planning to meet development needs.

Banks should be created in the context of plans that combine ecological assessments with planning for infrastructure and development. These may be watershed or habitat conservation plans or other local or regional plans. Metropolitan transportation plans offer the opportunity for interagency discussions of banking that consider this strategy's suitability, potential need (represented by the combined impacts of transportation projects), and potential locations that "serve the greatest ecological good."

Phase 1 Findings

- There are no mitigation banks in the OKI Region (possible exception in Campbell County), but the region has areas with the potential to serve as mitigation banks.
- Projects in some of the Ohio counties in the OKI Region can be mitigated at banks outside of the region (in preparing for the consultations, it was learned that projects in the East Fork Watershed can be mitigated by the purchase of credits at the Red Stone Farm Mitigation Bank in the Lower Scioto River Watershed, which is managed by NKU's Center for Applied Ecology, based on information in ODOT's *Waterway Permits Manual*).
- Mitigation banks will become more prevalent. Most existing banks are for wetland restoration or creation, but stream mitigation banks are also likely to be developed.
- A major advantage of mitigation banks is their size. In contrast to a scattered set of small sites for mitigating projects on a case-by-case basis, mitigation banks can help restore large areas for habitat, are easier to monitor, and have a greater potential for successful restoration ("how good is a 2-acre postage stamp site surrounded by agricultural lands?"). Conceptually, they are a good strategy and have a high potential for success.
- A disadvantage of mitigation banks is that they move the site of compensation for impacts away from the site where the impact occurred. There have been a lot of problems with mitigation banks' performance (inadequate project site, management, monitoring, etc.), but this is an evolving process.

Phase 2 Considerations

- For discussion with state and federal wildlife agencies, what sites in the OKI Region might be desirable for a mitigation bank/for restoration and maintenance as wildlife habitat? What organizations might be involved in establishing these banks?
- With Indiana state and federal agencies, discuss the status of INDOT's effort to establish mitigation banks. If appropriate, discuss the Oxbow area and Whitewater River watershed as potential sites for mitigation banks.

- For discussion with the U.S. Army Corps of Engineers, what is the potential for establishing mitigation banks in the OKI Region? What is involved? What kinds of conservation/environmental entities could potentially establish a mitigation bank?
- How can mitigation banks be used in the OKI Region to optimize opportunity to “restore and maintain” environmental functions/natural resource areas of regional significance?

Phase 1 Discussion (OKI questions are in italics, followed by state agency responses)

Q *Do you know if INDOT is working to create mitigation banks for transportation projects? (2008 source: IINDOT is considering creation of two banks)*

- Banks are a requirement of the Corps.

Q *Any comments on environmental mitigation banking? / What are your comments on mitigation banks as a strategy to restore and maintain high-quality resources?*

- They are a mixed bag. What’s good is that they provide for larger areas of habitat. But they transfer mitigation of the impact on one place to a different place. Not happy about moving the impact, but how good is a 2-acre postage stamp site surrounded by agricultural lands? Conceptually, banks could be good.
- From a regulatory perspective, mitigation banks are essential. There are a lot of applications for small projects, and size makes their success questionable, monitoring difficult, etc. Banks have a high potential for success, but this an evolving process. There were early mistakes, such as inadequate projects, inadequate monitoring, etc. The Inter-agency Review Team (IRT, formerly the Mitigation Banking Review Team, or MBRT) is now developing a set of guidelines for mitigation banks.
- There are a number of ongoing reviews related to mitigation banks. It is a formal federal process. Mitigation banks in Ohio are almost exclusively wetland banks, but starting to look at stream mitigation banks.
- There are potential areas for mitigation banks in the OKI Region / a number of areas that could be considered for preservation, enhancement, invasive species control (as part of banking agreement)...

Q *The members of the Ohio Mitigation Banking Review Team (MBRT) are the Ohio EPA, ODNR, the Army Corps of Engineers, U.S. EPA, U.S. Fish and Wildlife Service, and NRCS (USDA Natural Resources Conservation Service. Is that right? (The Corps is the team leader and the final authority in the drafting of the MBRT agreement, required for all projects.) How are Ohio EPA and ODNR represented ... by what department or division?*

Yes. MBRT is now called the IRT (Interagency Review Team). There is one vote per agency, but OEPA usually has 2 representatives. ODNR is represented by Brian Mench and sometimes by Becky Jenkins from Division of Wildlife.

Q In response to a question not focused on mitigation...

- The Kentucky Department of Fish and Wildlife Resources indicated that there may be a mitigation bank in Campbell County along Wolf Road (lower Licking River... may be in 14-digit watershed for mussels?)

Issue 6: Other Mitigation Strategies “Regional in Scope”

The Issue

What are potential mitigation strategies “regional in scope” -- in addition to in-lieu-fee mitigation and mitigation banks -- that might be feasible for the OKI Region?

Phase 1 Findings

- In Ohio, a “Pooled Mitigation Area” can be used to mitigate impacts from multiple projects by one project sponsor. This strategy is used by ODOT and has been used by other entities. The Pooled Mitigation Area can include area for mitigating projects in the future, but unlike a mitigation bank, it cannot be used by more than one project sponsor.
- In Ohio, “Consolidated Sites” is a strategy used by ODOT for mitigating several projects at the same location/at a single site without the necessity of going through the lengthy site-approval process with the state mitigation banking/inter-agency review team (identified in preparation for consultations).

Phase 2 Considerations

- For state and federal agency discussion of mitigation in Ohio, develop a better understanding of the pros and cons of the Pooled Mitigation Area and Consolidated Sites strategies.
- For the Ohio consultations, develop an understanding of the prevalence and potential use of these two strategies and, if appropriate, potential locations for mitigation sites. Inquire about other strategies that may have potential for mitigation “regional in scope.”
- For the Indiana consultations, discuss the potential for using Pooled Mitigation Area and Consolidated Sites strategies, especially if the use of in-lieu-fee mitigation is not an option. Inquire about other strategies that may have potential for mitigation “regional in scope.”

Phase 1 Discussion (OKI questions are in italics, followed by state agency responses)

Q *As an alternative to mitigation banks, ODOT has created “Pooled Mitigation Areas” where a stream or wetland mitigation site is developed beyond the needs of a single project, and extra credits are held for future use (the mitigation site is constructed simultaneously with the project construction). ODOT also uses Consolidated Sites where several projects are mitigated at the same location. Are you familiar with these approaches?*

Waterways Permits Manual: Willow Point Wetland, Coonpath Wetland Mitigation, Dillon Reservoir Wetlands, and St. John’s Dam Removal (Sandusky River)

- They have worked fairly well. The OEPA Division of Surface Water has allowed other entities besides developers to use them. If it’s known in advance that there will be multiple mitigation projects in a certain areas, such as projects to mitigate 10,000 feet of steam impacts, then find a site and use it (site is to be larger than impact area). Cannot sell the credits – site is strictly for their use / the applicant’s use = major difference from a mitigation bank.

Issue 7: Resources Considered for Mitigation

The Issue

The information base on mitigation developed by OKI in Phase 1 work is most extensive for wetlands. Mitigation is also required to different degrees for streams, federally-endangered species and their habitat, floodplains, prime agricultural lands, cultural resources, and perhaps other types of natural resources/environmental functions. For state-listed species and some other resources, mitigation may not be required but may be considered as an option.

A more comprehensive understanding of the natural resources/environmental functions for which impacts are to be mitigated could clarify planning implications and potential project impacts, both for environmental and financial implications. This information would be suitable for discussion in the local-agency consultations.

Phase 1 Findings

- Indiana and Ohio are developing stronger requirements to mitigate impacts on streams.
- Mitigation can be required for impacts on forests/trees.
- If a project has impacts on the floodway, mitigation is required (Indiana)

Phase 2 Considerations

- In preparation for consultations, OKI may review data collected so far and additional data if warranted to determine the types of resources for which mitigation is required (e.g., matrix format).

Phase 1 Discussion (OKI questions are in italics, followed by state agency responses)

Q *What is the status of Indiana guidelines for mitigation of stream impacts? / What is the status of Ohio proposed rules (early 2009) for protecting isolated streams by establishing a state water quality permit?*

- Indiana guidelines are in process (information may be available online).
- Ohio proposed rules for isolated streams are wrapped up in the mitigation rule package. There is no deadline for submission of comments.

Q *Does mitigation occur for impacts on urban forests or removal of trees?*

- In Indiana, mitigation is required to offset impacts to forests/trees occurs located in the floodway or, if they are not in the floodway, mitigation is recommended by the Indiana Division of Fish and Wildlife if they are involved in project review early on.

Q *In response to a question not focused on mitigation...*

- Dearborn County has a lot of archaeological sites along the Ohio and lower Great Miami Rivers... Many of these same areas have Indiana bat summer habitat. USFWS is a resource for bat summer

habitat and ETR species. The Argosy site had an archaeological dig prior to construction [may have also been a dig for the straightening of SR 48.

In addition, responses to questions not focused on mitigation...

- State-listed species are considered in the permitting process; the Director has the authority to consider effects on state-listed species.

Issue 8: Mitigation to “Maintain” vs. “Restore”

The Issue

As the consultations progressed, discussion indicated that it would cost less money to protect natural resources and their environmental functions than to restore them. Given that the Discussion of Mitigation is to consider mitigation strategies “that may have the greatest potential to restore and maintain” environmental resources, the consultations were used to clarify the use of mitigation for conserving existing natural resource functions as opposed to restoring impaired functions.

Phase 1 Findings

- In a mitigation strategy, “maintain” may refer to 1) maintaining a site’s environmental quality after restoration occurs rather than 2) maintaining a site’s environmental quality by acquisition or preservation (as an alternative to restoring a degraded site).
- Conservation agencies in all three states noted that “restoration” is more expensive than “conservation”: it is cheaper to conserve than to restore.
- Restoration is not necessarily successful (this seems especially true for wetlands).
- Some resources, once degraded, cannot be restored (for example, cannot recreate the Oxbow).

Phase 2 Considerations

- Is there a potential to expand the use of mitigation strategies for conserving high-quality natural areas?
- Is the limited use of mitigation projects for land acquisition/preservation due to legal restrictions or agency policy?

Phase 1 Discussion (OKI questions are in italics, followed by state agency responses)

Q ... What are your thoughts on the use of funds for restoration vs. preservation or acquisition? / What on your thoughts on restoration projects vs. preservation or acquisition?

- “It’s cheaper to avoid an impact than to mitigate for it.”
- The jury is out on how well we can recreate wetlands, so we should hang on to what we have.

- Small restorations are worthless. The state conservation agency definitely prefers preservation. (One option would be to purchase existing wetlands.)
- Depends on the sites and the species, but get better value/more for the money from preservation. Restoration is more costly and does not necessarily work. There is not much money available for protection, but a lot of money is available to restore/re-create. ... There is money to improve but not prevent (geared to historic impacts from agriculture). There is money to fix existing problems; the bad actors get the money to fix (the farmer with cows in the stream), but there's no money to help those who do the right thing (to make problem-prevention more affordable).
- For mitigation projects, can spend 10% on acquisition. Concept of "no net loss" is not well funded. The Corps is signing off to degrade areas and restore elsewhere, but the value of restored area is not the same as the intact system that is destroyed. There is a 1:1 restoration ratio where the need is for a 10:1 ratio. Program is based on short-term spending rather than long-term.
- Restoration works better for birds than for less mobile species (species that can't move from one site to another).

In addition, responses to questions not focused on mitigation...

- The potential to recreate the Oxbow is virtually nonexistent (= need to conserve it).
- It's cheaper to conserve areas before a species is listed, [but] the transportation review process is not interested in /does not consider candidate species.
- Personal opinion is that area needs to be acquired that is to be protected. Acquire through federal, state, NPOs, etc. If try to protect or preserve wetland or other area, owner of habitat sees it as "taking my land out of development," so ultimately, need to acquire. Example of designation of Little Miami River as Scenic River, but ODNR & NPOs still try to acquire forestland (300' from river).

Q We've been told that it's cheaper to preserve than to restore. Can environmental mitigation be used to preserve resources that are not impaired?

- *Appropriate/possible.* We have not gone that route because of the lack of an in-lieu-fee program. Without a final in-lieu-fee mitigation document, the Corps has no legal _____. We try to be as specific as possible when we issue a certificate. If 1500' is impacted, *we* work with the organization: the state wants to know how the area is to be preserved.

Q Do wetland mitigation projects ever involve preservation of existing wetlands?

- Very rarely; preservation can be part of a mitigation project. The process is one of nickel-and-dime [conversion] of quality wetlands and then mitigate with piecemeal wetlands.

Q ... As we understand it, acquisition can only be used for wetland mitigation where the highest-quality wetlands are involved, and in conjunction with wetland restoration or creation, and by decision of the Director ...

- That's the process in state rules.

Q Some sites in the SWERP Clearinghouse are listed as mitigation opportunity to preserve a stream segment (specific #feet per stream). Can stream preservation involve land acquisition?

- For us, preservation is legal insurance that the area (the site used for project mitigation) will not be developed, like a conservation easement.

Issue 9: Mitigation Areas with “Greatest Potential”

The Issue

Mitigation site location is an integral part of mitigation strategy. The mitigation site location helps determine mitigation strategies with the “greatest potential to restore and maintain” environmental functions and with a regional scope. Discussion is needed regarding sites and resources identified in state conservation plans, maps, and inventories (used for comparison with OKI transportation plan) as “regionally-significant” resources and as appropriate for mitigation site locations with the “greatest potential to restore and maintain” environmental functions.

Phase 1 Findings

- Not discussed

Phase 2 Considerations

- Are state agencies interested in selecting mitigation sites based on conservation needs that extend beyond project/site level? Should site selection for mitigation projects account for conservation needs beyond the fact that the site is impaired and available for use in a mitigation project?
- Should the process for selecting sites for environmental mitigation account for their environmental significance from a regional perspective?
- Can resources identified in state conservation plans, maps, and inventories be considered as resources that are “regionally significant”? Should these areas be considered as potential targets or as high-priorities for mitigation sites?

Phase 1 Discussion (OKI questions are in italics, followed by state agency responses)

- Not discussed

Issue 10: Mitigation Strategies with “Greatest Potential”

The Issue

The Discussion of Environmental Mitigation is intended to identify potential strategies with the “greatest potential to restore and maintain” environmental functions, including areas for mitigation projects, and for these strategies to be regional in scope. Some major considerations have been discussed, but are there other options? And of what’s been considered, what has the most promise?

Phase 1 Findings

- Not discussed

Phase 2 Considerations

- What potential mitigation strategies discussed offer the greatest potential to address considerations in this Discussion (i.e., to have “greatest potential to restore and maintain” environmental functions and to be regional in scope)?
- What potential mitigation strategies discussed are most acceptable or feasible to the state and federal agencies involved in mitigation in this state?
- What steps are proposed for advancing potential mitigation strategies that address considerations in this discussion?

Phase 1 Discussion (OKI questions are in italics, followed by state agency responses)

- Not discussed

Appendices

for

**A Discussion of Environmental Mitigation:
Phase 1 Report**

Appendix A

Federal Requirements for a Discussion of Environmental Mitigation

Regulations on the development and content of metropolitan transportation plans are published in the Code of Federal Regulations. The following regulations apply to how the transportation planning process is to consider environmental effects.

23 CFR Sec 450.322

- (f) The metropolitan transportation plan shall, at a minimum, include:
- (7) A discussion of types of potential **environmental mitigation** activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the metropolitan transportation plan. The discussion may focus on policies, programs, or strategies, rather than at the project level. The discussion shall be developed in consultation with Federal, State, and Tribal land management, wildlife, and regulatory agencies. The MPO may establish reasonable timeframes for performing this consultation;

and

- (g) The MPO shall consult, as appropriate, with State and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation concerning the development of the transportation plan. The consultation shall involve, as appropriate:
 - (1) Comparison of transportation plans with State conservation plans or maps, if available; or
 - (2) Comparison of transportation plans to inventories of natural or historic resources, if available.

Sec. 450.104
Definitions

Environmental mitigation activities means strategies, policies, programs, actions, and activities that, over time, will serve to avoid, minimize, or compensate for (by replacing or providing substitute resources) the impacts to or disruption of elements of the human and natural environment associated with the implementation of a long-range statewide transportation plan or metropolitan transportation plan. The human and natural environment includes, for example, neighborhoods and communities, homes and businesses, cultural resources, parks and recreation areas, wetlands and water sources, forested and other natural areas, agricultural areas, endangered and threatened species, and the ambient air. The environmental mitigation strategies and activities are intended to be regional in scope, and may not necessarily address potential project-level impacts.

Appendix B

State-Agency Participants in OKI Consultations

May 4 ... Ohio Department of Natural Resources/ODNR

ODNR Division of Natural Areas and Preserves/ODNAP

Scenic River Services Group: Bob Gable, Manager

Natural Heritage Database Group: Greg Schneider, Manager

ODNR Division of Wildlife/ODOW

Becky Jenkins, Environmental Specialist (stream conservation, environmental assessment)

June 8 ... Kentucky agencies

Kentucky State Nature Preserves Commission/KSNPC

Sara Hines, Data Manager (rare species & communities, data analysis, environmental review)

Ky. Department of Fish and Wildlife Resources/KDFWR, Wildlife Diversity Section

Sunni Carr, Wildlife Diversity Program Coordinator

Danna Baxley, Research Coordinator (non-game, wildlife action plan)

Keith Wethington, Fish and Wildlife Information System Supervisor (GIS, species diversity)

Mike Hardin (mitigation, NEPA review and comment)

Kentucky Division of Water/KDOW

Peter Goodmann, Assistant Manager, Manager of Watershed Management Branch

Susan Cohn, Watershed Management Branch (data analysis, GIS, 305b report)

August 11 ... Indiana Department of Natural Resources/IDNR

IDNR Division of Nature Preserves/IDNP

John Bacone, Division Director

Cloyce Hedge, Heritage Program Director

Ron Hellmich, Heritage Database Manager

IDNR Division of Fish and Wildlife/IDFW, Wildlife Diversity Section

Katie Smith, Chief, and Project Manager for state wildlife conservation plan

John Castrale, Nongame Wildlife Biologist (bird biologist)

IDNR Division of Fish and Wildlife/IDFW, Environmental Unit

Matt Buffington, Environmental Supervisor

Patricia Clune, Environmental Biologist

September 9 ... Indiana Department of Environmental Management/IDEM, Ofc. of Water Quality

IDEM Watershed Planning Branch

Marylou Poppa Renshaw, Chief

Kathleen Hagan, Watershed Specialist SE Indiana (NPS grant program, watershed groups)

Jason Randolph, 401 Project Manager (coordinates reviews for INDOT)

David Carr, 401 Project Manager (wetlands, stream restoration, bank stabilization)

October 30 - Ohio Environmental Protection Agency/OEPA

Division of Surface Water/ODSW

Randy Bournique, Section Manager, 401 Water Quality Certification and Wetland Section

Dan Dudley (rule development, water quality standards, classification of waters...)

Trinka Mount, TMDL Coordinator (Integrated Report)

Jeff DeShon, Ecological Assessment Section (biological monitoring, QHEI)

Mark Stump (Anti-degradation Rules)

Appendix C

Kentucky's Approach to Environmental Mitigation

(notes in preparation for mitigation consultations ... June 8, 2009)

What agencies implement mitigation projects?

How are adverse environmental effects compensated for / what types of mitigation projects are implemented?

How much money is spent to mitigate for adverse effects? How are mitigation projects paid for?

Who pays for mitigation projects?

How are decisions made about where mitigation should occur?

Where has mitigation occurred?

Kentucky Transportation Cabinet / Mitigation of Highway Project Impacts

Kentucky's process for mitigating environmental impacts of highway projects is a potential model for other states. Kentucky has a mitigation process for preserving the state's "Greatest Potential" ecosystems. Kentucky's mitigation process was selected by the FHWA as an "Exemplary Ecosystem Initiative" and commended for being "innovative and forward-thinking" and "looking at the big picture."

In Kentucky, the Transportation Cabinet (KYTC) has an agreement with the U.S. Fish and Wildlife Service (FWS) to fund targeted conservation projects that result in mitigation credits for KYTC. The process was established in 2005.

In KYTC's mitigation process, the FWS identifies potential mitigation sites. For these sites, the FWS prepares mitigation and habitat-restoration plans and estimates the number of credits likely to be received if a plan succeeds. If the U.S. Army Corps of Engineers approves, then KYTC can accept the plan (depends partly on cost-effectiveness) and fund its implementation, which provides the KYTC with mitigation credits. In essence, this process provides KYTC with mitigation credits for funding stream and wetland restoration projects designed by the FWS.

Mitigation sites selected by the FWS have the "greatest potential" to yield conservation benefits and mitigation credits. These are usually sites where stream or wetland restoration will offer continued protection of endangered, rare, and at-risk species and their habitats. Mitigation sites are located in the watersheds where highway impacts occur.

The mitigation project typically involves purchasing the site and designing, constructing, and monitoring the project. The work is done through a separate agreement between the FWS and a third party, such as a land trust or other non-profit agency (The Nature Conservancy). The agreement provides for sites to be preserved in perpetuity. This arrangement also helps minimize construction and monitoring costs.

The mitigation arrangement was developed between the KYTC and the FWS because of KYTC's difficulty in identifying, purchasing, and maintaining the quality mitigation sites needed to offset highway project impacts on aquatic resources. Mitigation projects were unsuccessful and expensive; mitigation sites on private property could not guarantee permanent protection of

KYTC's investment. This new arrangement has benefitted habitat restoration. (In 2006, 125 acres of wetlands and more than 20,000 linear-feet of stream were protected in five counties.)

Kentucky Mitigation Fund / Mitigation of Impacts on Streams and Wetlands

Kentucky has established a **Mitigation Fund** for streams and wetlands. The Fund was established in 2000 by the Kentucky Legislature under [KRS 150.255](#). It's financed by in-lieu-mitigation fees paid to U.S. Army Corps of Engineers by 404 permit applicants-

The Mitigation Fund was established to fulfill requirements for compensatory mitigation under Sections 404 (ACE) and 401 (Kentucky Division of Water). For projects with stream or wetland impacts that are to be compensated for by in-lieu-fee mitigation, the Corps issues a permit with conditions specifying the fee, the entity to be paid, and a payment schedule.

The amount of the fee is determined by the ACE based on the quality of the aquatic resource, the impacts to occur to the resource, and comments received as part of the permit evaluation process. The fee generally starts at \$100 per running foot of stream loss, which represents "replacement value." If the impacted area is very pristine, a multiplier may be added to the base value, such as 1.5 times the \$100/linear foot. Best professional judgment is used and the price is negotiated. *consultation issue ... does this paragraph also apply to NK Stream Fund??*

Three public entities are authorized to receive Mitigation Funds (may be paid directly by permit applicants for projects that involve in-lieu-fee mitigation). Entities eligible to receive in-lieu-fee mitigation funds are the:

- Northern Kentucky University (for the Northern Kentucky Stream and Restoration Fund),
- Metropolitan Sewer District for Jefferson County (for the Louisville area), and
- Kentucky Department of Fish and Wildlife Resources (for the Stream and Wetland Mitigation Trust Fund established by Kentucky's General Assembly in 2000 and administered by KDFWR; funds support the Kentucky Stream and Wetland Restoration Program that applies throughout the state -- except for area covered by the other two entities; KDFWR identifies and assesses ecologically-appropriate stream and wetland restoration opportunities and implements plans to protect, purchase, enhance, restore, and monitor selected sites).

The Mitigation Fund is overseen by a Mitigation Review Team (MRT) with five members. Members are from three federal agencies (the Corps of Engineers, Louisville District as Chair and the U.S. Environmental Protection Agency, Region IV and the U.S. Fish and Wildlife Service, Kentucky Ecological Services) and two state agencies (the Kentucky Division of Water and the Kentucky Department of Fish and Wildlife Resources).

The MRT approves projects financed by the Mitigation Fund (i.e., Northern Kentucky Stream and Restoration Fund projects) and reviews ongoing and completed projects,

and can develop guidelines or agreements to further define the conditions under which Mitigation Fund monies may be used. Each project approved by the MRT requires a Restoration Plan developed by KDFWR or other funding entity.

Projects are to restore the loss of stream habitats that have been impacted by activities such as dredging and filling. Mitigation projects are to be located within the same river basin and ecological region as the impact site and as close to the impact site as possible. Projects are developed to address specific resources needs of the watershed in which the project is located and are planned to be self-sustaining over time (to the extent possible, but longer time maintenance may be appropriate in some cases e.g. for controlling invasive species).

Recipients of in-lieu-fees can use the money to...

- identify and assess ecologically appropriate stream and wetland restoration opportunities;
- implement plans to protect, purchase, enhance, restore and monitor selected sites;
- establish financial, technical and legal mechanisms to ensure long-term success of the mitigation projects.

As part of KDFWR's Stream and Wetland Restoration Program, the Environmental Section has developed a *Site Proposal Form* (for the Stream and Wetland Restoration In-Lieu-Fee Program). The form asks about ownership of stream banks (one or both), presence of trees within 25' of stream banks, and problems with the stream. It includes an explanation of the need for permanent protection and the need for the landowner to agree to a conservation easement or deed restriction.

Northern Kentucky Stream and Restoration Fund

For Kentucky counties in the OKI Region, "unavoidable impacts on streams or wetlands" can be mitigated through the Northern Kentucky Stream and Restoration Fund, aka the Stream Fund. The Stream Fund is financed by in-lieu-mitigation fees paid to the Northern Kentucky University Foundation through procedures established for the Kentucky Mitigation Fund (refer to preceding section).

The Stream Fund is administered by the U.S. Army Corps of Engineers and the Kentucky Division of Water and managed by the Northern Kentucky University's Center for Applied Ecology ([Northern Kentucky University](#)). The Corps has an agreement with NKU to ensure completion of mitigation, compensation for losses, and adherence to guidelines.

The Center for Applied Ecology at the Northern Kentucky University manages the Stream Corridor Restoration Fund to improve degraded streams and wetlands. Typical projects include stream corridor assessments, bank stabilizations, in-stream restoration measures, and riparian habitat restoration. The Center identifies and assesses stream

corridor restoration opportunities and implements plans to protect, enhance, restore and monitor sites. Projects are reviewed and approved by the Mitigation Review Team.

The majority of the Center's projects involve stream restoration and enhancement on private lands. Project success thus depends on the cooperation and development of partnerships with private landowners. Streams restored under this program are placed in conservation easements, deed restriction, or other permanent protection and monitored by the Center for extended years to ensure engineering and biological restoration success.

Mitigation projects are permanently protected through easements or ownership, as required by the MRT for projects paid for with in-lieu mitigation fees. This limits project locations to sites where landowners are willing to donate a Conservation Easement or where land can be purchased by a resource agency, institution, or non-profit organization. Conservation easements are typically corridors that extend 50 feet on either side of the stream bank and have a minimum length of 1,000 feet (preferred to achieve an economy of scale with stream construction costs).

Mitigation in the OKI Region

- Permitted developer of a subdivision to change or destroy two intermittent stream channels that drain into Banklick Creek in exchange for work along the creek itself. (07 news)
- Stream Restoration Projects financed by the Stream Corridor Restoration Fund as of October 2006 amounted to more than 14 miles of stream and 180 acres of riparian areas restored and permanently protected *Source: website of NKU Center for Applied Ecology*
 - Adair Wildlife Management Area
 - Big Bone Creek in Big Bone Lick State Park: bank stabilization for 200 feet of tributary and re-forestation of 24 acres of former riparian zone
 - Burlington Elementary School
 - Mook Road Creek at Bentwood Hills Condominium Property in Campbell County: bank stabilization and 200 feet of stream restoration
 - Mook Road Creek at Woodland Hills Condominium Property in Campbell County: bank stabilization and stream restoration on 350 feet of channel
- Allen Fork tributaries in Boone Woods Park: \$443,000 from the Northern Kentucky Stream Corridor Restoration Fund in 2008
This project involves restoration of segments of unnamed tributaries of Allen Fork in the Boone Woods Park in Burlington to mitigate but not completely eliminate problems from sedimentation at the Darlington Farms condominium complex in Burlington. The news source notes that monies in the Stream Funds are from developers, the Cincinnati/Northern Kentucky International Airport, and private industry and that county money will not be used. Boone County will place a conservation easement over the area to be improved. *Source: Enquirer, Jan. 3, 2008*

Appendix D

Indiana's Approach to Environmental Mitigation

(notes in preparation for mitigation consultations ... July 24, 2009)

INDOT Mitigation of Highway Project Impacts

Environmental mitigation of highway projects is considered in INDOT's Office of Environmental Services (OES) as part of the project development process. The OES is divided into three sections: Environmental Policy (responsibilities include preparation of Environmental Assessments and Environmental Impact Statements), Ecology and Waterway Permitting (divided into two units), and Cultural Resources.

Relative to mitigation, the Waterway Permitting Unit is responsible for the development of mitigation designs (including vegetation and landscape plans). The Ecological Unit

- develops and/or reviews stream and wetland mitigation proposals associated with INDOT projects;
- conducts field work and prepares biological reports, including wetland delineations, habitat evaluation studies, and "Waters of the U.S." determinations;
- coordinates and reviews studies for endangered species; and
- ensures compliance with various laws and memorandums of agreement with state and federal agencies.

In regard to impacts from highway construction, INDOT's website states that "the environment assessment section helps insure that a project avoids impacts to wetlands and water quality where possible, minimizes impacts that are unavoidable, and mitigates for impacts that exceed regulatory limits." (<http://www.in.gov/indot/2964.htm>) These impacts and INDOT's approach to mitigation are stated below:

- Erosion and siltation of streams: "For construction projects, erosion control methods are planned which will prevent soil from eroding from the site and polluting any receiving waterways."
- Realignment or relocation of a waterway: "When channels are realigned or relocated due to an INDOT project, the new channel is designed to mimic natural stream features and to reduce the potential for erosion within the channel."
- Filling or draining of wetlands: "When a project impacts a wetland, INDOT mitigates for those impacts by constructing new wetlands, restoring prior converted wetlands, or enhancing existing but degraded wetlands. (In 1999, INDOT constructed or restored 10 wetland sites, totally over 200 acres.)

INDOT options for long term management of mitigation wetland sites are the following:

- purchase of property from a willing seller,
- establishment of a conservation easement (landowner retains ownership of the property with a deed restriction requiring that the property remain a wetland in perpetuity), or
- purchase of property, construction of a wetland, and then turn the property over to a conservation/preservation organization with a deed restriction.

INDOT's website includes its *2008 Procedural Manual for Environmental Studies*.
(<http://www.in.gov/indot/files/Procedural Manual for Preparing Environmental Studies 2008.pdf>)

Wildlife Habitat Issues

Impacts upon Threatened and Endangered Species (Federal and State)

Wetland Impacts

Water Body Modifications

Waterway Permits

Mitigation, Commitments, and Recommendations

Considerations for Consultations

- How are mitigation sites selected? Website: we are always looking for potential future sites.
- *Options for wetland mitigation include new construction, restoration, or enhancement – Is preservation of existing wetland an option?*

Selection of Mitigation Sites

- INDOT Website: we are always looking for potential future sites.
- Volunteer Mitigation Sites <http://idemmaps.idem.in.gov/apps/MitigationVolunteer/>
This website provides a conduit for State employees, environmental consultants, and the public to share information regarding potential mitigation sites for wetlands, streams, lakes or other water features.
The combination of using GIS with the ability to add information allows for a single location for people to propose mitigation areas as well as [allows for] a search for those looking for places to complete mitigation projects.
- **Indiana Wetlands Conservation Plan**
The *Indiana Wetlands Conservation Plan* (1996) is to be used to guide wetlands conservation efforts throughout the state. The plan includes the following:
Goal: Conserve Indiana's remaining wetland resources... and restore and create wetlands where opportunities exist to increase the quality and quantity of wetland resources
Guiding Principles: The 15 principles include
 - To prioritize/focus efforts on priority wetlands
 - To conserve wetlands on an ecosystem or watershed basisConservation Priorities: The 7 Priorities include
 - To develop a system for prioritizing wetlands for conservation
 - To make priorities...at the watershed or sub-watershed level (for Dearborn County, these are the Whitewater River Basin and Ohio River Basin)Case studies of wetland conservation partnerships that include the Oxbow
A "strategic approach to conserving wetlands" called the Hoosier Wetlands Conservation Initiative with six components and including
 - (1) emphasis on planning and implementing the IWCP through local (watershed or sub-watershed) wetland conservation partnerships called focus areas
 - (5) acquire permanent protection for the highest priority wetlands from willing ownersEach of the 6 strategic components includes objectives and actions:
 - Objective 2.2: have an inventory system capable of quantitatively identifying and monitoring Indiana's wetlands in place by May 1998

- Objective 2.3: Prioritize Indiana's wetlands for conservation by community type and watershed by May 1999 (develop a process that integrates the inventory ... with the Natural Heritage Inventory database)
- Action 5.1.2 By May 1999, develop longer acquisition priorities based on the overall wetland conservation priorities ...

The plan's appendices include an IDNR memorandum entitled *Wetland Conservation Guidelines* to implement strategies. The Guidelines include:

- Identify the remaining highest quality wetlands in order to prioritize them for protection or acquisition in a natural or semi-natural state...

<http://www.in.gov/dnr/fishwild/3350.htm> = document for download

<http://www.in.gov/idem/4405.htm> = background, Strategic Approach/ 6 components of Hoosier Wetlands Conservation Initiative

State Agencies / Mitigation of Impacts on Streams and Wetlands

Compensatory Mitigation for Wetlands

Compensatory mitigation is the last step in the three-step approach of (1) avoidance of impacts to wetlands, (2) minimization of impacts to wetlands, and (3) compensation for unavoidable impacts to wetlands. State wetlands regulatory programs adhere to the no net loss/net gain policy. In general, all impacts to wetlands allowed by the regulatory process that are greater than one-tenth (0.1) acres in size require some form of compensatory mitigation.

There are occasions when wetland losses are unavoidable. When these situations arise, the wetland that is lost due to impact must be replaced. The majority of these wetland replacements occur individually, resulting in small wetland restoration or creation attempts either on the same property as the wetland loss, or within the same county or watershed as the filled wetland. IDEM requires that wetland replacement occur within a year of the wetland loss.

State code contains required standards and ratios for Compensatory Mitigation (see NRC Bulletin under IDNR section). It is the goal of IDEM's wetland permit program to ensure that compensatory mitigation offsets the loss of isolated wetlands allowed by permitting program. *IDEM policy documents for determining when Compensatory Mitigation is complete and meets success criteria - also, Compensatory Mitigation is required for wetland and stream impacts associated with permitting activities under the Flood Control Act.*

Role of Indiana Department of Environmental Management/IDEM

Process / to be integrated into document later:

Any person or company planning to discharge fill materials to Indiana wetlands or other water bodies such as streams, rivers, and lakes by filling, excavating, open-trench cutting, or mechanical clearing, must receive Section 401 Water Quality Certification authorization from IDEM and must also apply for, and receive, a federal Section 404 Dredge and Fill Permit from the Corps.

IDEM recommends that any potential applicant first contact the Corps to begin the application process and determine if the proposed project will impact Waters of the U.S. and to determine whether or not a federal permit is required.

If the Corps of Engineers determines that a proposed project will require a Corps' Section 404 Dredge and Fill Permit, then the applicant must also apply for, and obtain, a Section 401 Water

Quality Certification from IDEM. IDEM will review the proposed activities to determine if they will comply with Indiana law, including state water quality standards.

When a project is planned in Indiana that will impact a wetland, stream, river, lake, or other Water of the U.S., the Indiana Department of Environmental Management (IDEM) must issue a Section 401 Water Quality Certification (401 WQC). A Section 401 WQC is a required component of a federal permit and must be issued before a federal permit or license can be granted.

Isolated wetlands (those wetlands not regulated under the federal Clean Water Act) are regulated under Indiana's State Isolated Wetlands law. Impacts to isolated wetlands require State Isolated Wetland Permits from IDEM.

- IDEM administers the Section 401 Water Quality Certification program: If the COE decides that a permit is needed for activities in a jurisdictional wetland, then the permit applicant must also obtain a Section 401 water quality certification from IDEM. In Indiana, wetland replacement is a major factor in determining whether or not a project receives Section 401 Water Quality Certification. *(A survey of other states has shown that for the majority of projects requiring wetland replacement, the replacement wetland was not constructed or was not constructed correctly, and, if constructed correctly many were not successful.)* As a basis for determining 401 certification, wetland functions are related to water quality standards and designated uses (for surface water); Indiana's water quality standards do not identify criteria, designated uses, or anti-degradation standards specific to wetlands.
- IDEM administers a permitting program for isolated wetlands (a 404 permit is not required from the COE) / for state-regulated wetlands (Indiana's Wetlands Activity Permits rule and state law). The program is administered to "promote a net gain in high quality isolated wetlands and assure that compensatory mitigation will offset the loss of isolated wetlands."
- For projects that pose minimal impacts to wetlands and thus qualify for Nationwide Permits, the IDEM and COE have developed a Regional General Permit/RGP to authorize projects that affect less than 1 acre and comply with conditions outlined in the RGP (developed after the IDEM denied a number of Nationwide Permits). <http://www.in.gov/idem/4390.htm>

IDEM coordinates with the COE, USFWS, and IDNR to evaluate projects in planning and to coordinate requirements for various state and federal permits related to wetlands.

IDEM webpage for Wetlands <http://www.in.gov/idem/4138.htm>; includes 401 Water Quality Certification (Wetlands)

Role of Indiana Department of Natural Resources/IDNR

IDNR regulates activities conducted in the area within the floodway (often encompasses wetlands and streams) produced by the regulatory flood (equivalent to 100-yr frequency flood). Three divisions (Fish and Wildlife, Water, Nature Preserves) review permit applications for wetlands situated within floodways (regulated under state's Flood Control Act & ...).

IDNR is a member of the Indiana mitigation banking review team (mentioned below)

Indiana Register's Natural Resource Commission Information Bulletin #17

Indiana Register's Natural Resource Commission Information Bulletin #17 (first Amendment): Subject: Wetlands and Habitat Mitigation Published on September 1, 1997, at 20 IR 3546. On November 14, 2006, the Commission reviewed and affirmed this bulletin.

"The purpose of Information Bulletin #17 is to establish a general framework for the assessment and determination of wetlands or habitat compensatory mitigation where a construction project is likely to reduce or degrade an existing wetland or habitat. The Department of Natural Resources will reference this bulletin when making licensing determinations and when commenting upon federal licenses, such as comments to the U.S. Army COE relative to Section 404....

...
In 1990, the INDR, IDOT, and USFWS determined standardization among these agencies would be beneficial with regard to wetlands mitigation. No standard mitigation ratios were established by law, and license applicants attempted to reach agreement on an individual project basis with no general guidance. Toward the goal of standardization, a memorandum was developed among these three agencies and remains in effect. Generally, mitigation ratios for projects of the department transportation range from 1:1 to 4:1 or higher.

The agency memorandum of understanding has no direct application, however, to private developers or to governmental agencies other than the signatories. Developing a memorandum of understanding to incorporate all private developers was a practical impossibility, but the need for guidance is even more acute. By far, the greatest impact upon wetlands and other habitats derives from private development and sources other than the Department of Transportation. The development of a wetlands and habitat mitigation bulletin was viewed as the most flexible method for addressing these interests.

...
To be noted, initially, is that some license applications must properly be denied in order to maintain the integrity of the statutory pronouncements. Mitigation is in many instances a viable alternative to denial, however, and the purpose of this bulleting is to assist in identifying how mitigation can be applied.

...
Mitigation ratios for wetlands and habitat should generally be greater than 1:1 for several reasons. There is typically a long term loss of values and functions of the impacted resources before a constructed or reconstructed area is developed. There is also the risk that the values and functions of the original area may not be fully replaced by the mitigation effort. There is a loss of production when a habitat is destroyed, and this production may never be equaled within the replacement area. ...

DNR Wetlands and habitat Mitigation Guidelines

Habitat Category (<i>palustrine = isolated</i>)	Standard Minimum
Palustrine Emergent Wetland	2:1
Non-wetland Forest (more than one acre of disturbance)	2:1
Palustrine Scrub-Shrub Wetland	3:1
Palustrine forested Wetland	4:1

The standard minimum ratio assumes that the functions and values of the original habitat will be replaced in the same watershed as a result of compensatory mitigation. ...

..."
The standard minimum ratio may be increased in connection with

- Proximity of the replacement habitat to the disturbed habitat. (increased if replacement does not occur on the same stream or within a 2.5 mile diameter of the disturbed site.... will require replacement within the same 14-digit HUC Area)
- Cumulative effect of the activity (impact on disturbed area results in an incremental impact when added to other past, present, and reasonably foreseeable future disturbance to the area)
- Location of the disturbed habitat to include such considerations as riparian corridor, community structure and composition, species diversity, and quality degradation (increased when one or more of these considerations apply...)
- Other habitats of concern
- ... **Urban forests are not specifically addressed in the guidelines. If the disturbed area has more than one acre of tree removal, mitigation will be required as specified in the standard ratios. When the disturbed area has less than one acre of tree removal, five trees shall be planted for each tree that is removed having a diameter of at least 10 inches.**

...

Evaluation of Compensatory Mitigation for Wetlands

Indiana evaluated compensatory mitigation for wetlands in a study published in June 2001. The study involved measuring the area of wetland at 31 sites established as a result of compensatory mitigation efforts and calculating minimum mitigation ratios for forested, wet meadow, shallow emergent, and open water wetlands to compensate for failures.

Earlier, in an inventory of Wetland Compensatory Mitigation (May 2000), IDEM evaluated 345 sites that had been established between 1986 and 1996 through its 401 Water Quality Certification program. Applicants had constructed 62% of the sites. Another 20% were incomplete. No attempt had been made to construct the mitigation on 14% of the sites. The author could not evaluate another 3% due to a lack of information in the certification files. These sites were in general clustered in the northern half of the state.

Waterways Permitting Handbook excerpt pg 23: Compensatory mitigation may involve

- restoration of existing degraded wetlands or areas that were previously wetland;
- creation of new wetlands;
- stream restoration activities;
- preservation of existing wetland and streams, when utilized in conjunction with creation or restoration ;
- preservation or restoration of upland buffers adjacent to surface waters, when utilized in conjunction with creation or restoration; and
- enhancement of existing wetlands.

In lieu fee programs

The state has no in lieu fee programs and in lieu fees are strongly discouraged.

Inter-agency Coordination

No formal coordination of regulatory or conservation activities exists. However, the Departments of Environmental Management and Natural Resources coordinate on an as-needed basis on wetland regulatory issues, which often includes the USEPA, the Corps of Engineers, the Natural Resources Conservation Service, and the US Fish and Wildlife Service. *aswm*

Mitigation Banks

Wetland Mitigation Banking allows a sponsor -- an individual, corporation, governmental entity etc. -- to restore a large wetland area in advance of impacts, with the expectation that the sponsor may use or sell these "wetland credits" at a future date. Under certain circumstances, the sponsor may be allowed to use or sell a percentage of the wetland credits before the wetland is restored. Wetland Mitigation Banking has the potential to improve the performance of wetland compensatory mitigation because of its up-front nature, its increase in restoration size, and its commitment to increased planning and placement considerations, but it also has a potential for misuse.

An Interagency Coordinated Agreement on mitigation banking was formally established in 2002. Mitigation banks are considered one of many options to replace wetlands allowed under applicable programs. There are no laws, rules, or policy that provide specific incentives for the utilization of banks. In 2008, there were two privately run mitigation banks in the state. The Department of Transportation is investigating the creation of at least two public banks to be used solely by the Department of Transportation. At least three other private banks are under active review by the various agencies. *aswm*

Indiana's Interagency Coordination Agreement on Mitigation Banking in Indiana [4.1 MB] governs how mitigation banks are created and operated in the state. The agreement was developed to facilitate the establishment of banks and minimize potential problems. It establishes a Mitigation Banking Review Team with members being the IDEM, COE, Indiana Department of Natural Resources (IDNR), Natural Resource Conservation Service (NRCS), U.S. Fish and Wildlife Service (USFWS), and U.S. Environmental Protection Agency (USEPA). One wetland mitigation bank has been authorized (not applicable for Dearborn County).

Tracking of Mitigation

IDEM does not have a formal system for tracking permits or mitigation but uses spreadsheets (for compliance deadlines) and a database for permitting documents. IDEM monitors wetland mitigation projects for three years.

Considerations for Consultations

- Is there a record of mitigation sites in Dearborn County?

Mitigation Sites in Dearborn County

Mitigation of Impacts of SR 48 Extension in Lawrenceburg

In April 2008, INDOT was arranging for compensatory mitigation of impacts to forested streams related to construction of a new SR 48 Extension in Lawrenceburg (OKI received a request for comments on impacts to historic resources from the Cultural Resources Section of INDOT's Office of Environmental Services). Mitigation was to create 5800 linear feet of riparian forest at three "riparian buffer sites" near Lawrenceburg.

Plantings were to occur for the following acreages:

- 1.6 acres on the west bank of Tanners Creek at its confluence with the Ohio River (about 50' by 1382') *appears to be between settling ponds of powerplant on the Ohio River*
- 2.1 acres on the east side of Wolf Run at its confluence with Tanners Creek (about 50' by 1834'; about 500' to be planted in grasses instead of trees due to the presence of overhead utilities) *appears to be just above settling ponds and Tanner Creek confluence with Ohio River and may be on powerplant property*
- 3 acres on the southern edge of an oxbow remnant of the Great Miami River (about 50' by 2589')

The initial proposal for plantings involved:

- trees (1'- 4' tall container plants) about 8' apart in rows about 10' apart (silver maple, shagbark hickory, hackberry, green ash, sycamore, bur oak, and pin oak)
- shrubs in masses of 3-5 (1'- 4' tall container plants) spaced equidistant within the rows of trees (grey dogwood, eastern ninebark, American bladdernut, nannyberry, and blackhaw viburnum)
- Midwestern riparian seed mix throughout each area.

The initial proposal was to be modified, however, to plantings of grasses or growth of natural vegetation in the Great Miami River area in place of trees and shrubs with deep root systems (due to archaeological concerns). IDOT's decision was to be made through consultation with the IDEM.

Considerations for Consultations

- Sites above do not represent areas with greatest potential to restore or maintain environmental functions (affected by the plan)
- may be interesting to compare mitigation effort with environmental conditions of the affected sites / SR 48 project

Mitigation of Impacts of Casino Development on Oxbow Wetlands

In 1995, the public hearings for casino licensing (held by Indiana Gaming Commission) made it clear that construction of the proposed Argosy Casino in Lawrenceburg would destroy wetlands along the Ohio River. The wetlands loss was to be mitigated by building new wetlands on property owned by the Lawrenceburg Conservancy District. The hearing was attended by Oxbow, Inc., which was asked for comments on Argosy's mitigation plan and intended to work with Argosy to improve the plan. The next step in the permitting process was to be a hearing held by the Corps of Engineers.

The Lawrenceburg Conservancy District Mitigation Conservation easement (identified on a map on the website of Oxbow, Inc.) was presumably established to compensate for wetland loss from casino development.

Considerations for Consultations

- Confirmation of the above description
- Updated information? Casino impacts on wetlands... additional mitigation?
- Creation of wetlands vs conservation of existing wetlands?
- This mitigation project considered "successful"/loss was adequately compensated for?

Sites Evaluated in Studies of Wetland Compensatory Mitigation

IDEM's prepared an Indiana Wetland Compensatory Mitigation: Area Analysis Report [PDF] (in 2001 and an Indiana Wetland Compensatory Mitigation: Inventory Report [PDF] in 2000 (sites established between 1986 and 1996). Both reports include a map that identifies two sites in Dearborn County: one in the Oxbow and the other on Laughery Creek (identified by two different symbols). The 2001 report appendix has information on individual sites listed by IDEM ID#, but there is no index for the ID#s.

Impacts to streams may also require mitigation – discussion to be added
Compensatory mitigation may involve stream restoration

Appendix E

Ohio's Approach to Environmental Mitigation

(notes in preparation for mitigation consultations ... October, 2009)

OEPA Structure for Mitigation Activities

401 Water Quality Certification and Wetland Section

Review and issue 401 wq certification and Isolated Wetland permits

Staff are assigned watersheds (except for Ohio transportation projects)

Wetlands Ecology Group

Performs wetlands research, develops wetland bio-criteria

Environmental Mitigation and Special Permitting Section

Mitigation requirements and ODOT projects

- 1) Review and follow up environmental mitigation in connection with 401 certification and isolated wetland permits
 - 2) Review and issue Section 401 WQ Certifs & Isolated Wetland Permits for ODOT projects
- *draft Section 401 WQ Certif for COE regional general permit for ODOT projects available for comment up to June 09*
 - *Draft rule revisions addressing the Section 401 WQ Certif Program available for comment (aug)*

(WQ certification section = 1 manager and 6 coordinators, which includes 1 coordinator dedicated to ODOT applications)

Opt to ask about success of preference for wetland restoration (alt is creation or enhancement ... preservation is an option for ____)

Opt to ask about early 2009 proposed rules for protecting isolated streams by establishing a state water quality permit

The Wetlands Ecology Section has one manager and two wetland ecologists who conduct research, develop evaluation methodologies, and develop rules related to wetlands

Wetlands restoration can involve

OEPA DSW Section 319 program

OEPA Div of Environmental and Financial Asst in connection w construction and modification of WWTPs

NOTE:

Wetlands are included in the definition of waters of the state in Ohio Revised Code (ORC) 6111.01. Protection is provided for all wetlands under ORC 6111.04, the Wetland Antidegradation Rule under Ohio Administrative Code (OAC) 3745-1-54, the Section 401 Water Quality Certification Rules under OAC 3745-32 and for isolated wetlands under ORC 6111.02 through 6111.029. Ohio Environmental Protection Agency (Ohio EPA) administers the Section 401 program and the isolated wetlands permit program.

Ohio EPA's wetland definition is the same as the U.S. Army Corps of Engineers (Corps) definition and is cited in OAC 3745-1-02.

Mitigation Process for Highway Project Impacts

Ohio Department of Transportation

ODOT's Office of Environmental Services is divided into three sections.

- The Environmental Policy Section coordinates ODOT's **Project Development Process** (PDP) for compliance with federal programs and processes (NEPA and **Section 4(f)**).
- The Cultural Resource Section evaluates transportation projects for impacts on archaeological and historic sites (two divisions of Section).
- The Ecological Resources and Permit Section has an Ecological Unit for which responsibilities occur during the **NEPA** process and a Permit Unit responsibilities occur during the final design stages. The units work together within the following areas of expertise:

Ecology

Farmlands

FEMA Floodplains

Storm Water Management

Waterway Permits

Issues addressed within the Ecological Unit include ecological surveys, water quality, wetland delineation, stream assessment, endangered species, farmland impact, scenic rivers and mitigation monitoring.

The Permits Unit deals with the completion, review, and processing of permits required by state and federal laws and regulations (i.e., **Clean Water Act**, **Isolated Wetland Law**, etc.). These permits may include: USACE 404 individual permits, 404 nationwide permits, USACE Section 10 permits, 401 water quality certifications, and Ohio EPA isolated wetland permits.

Permit information can be found in the **Waterway Permits Manual**.

ODOT, Office of Environmental Services, Ecological Resources and Permits

http://www.dot.state.oh.us/DIVISIONS/TRANSSYSDEV/ENVIRONMENT/Ecological_Resources_Permits/WATERWAY_PERMITS/Pages/MANUALSANDFORMS.aspx

see section on Waterway Permits Manual

ODOT Project Development Process

The PDP manual contains detailed sections on Minimal, Minor and Major Projects. The manual provides guidelines to identify activities required during each step of project development.

Ohio Environmental Protection Agency

Ohio EPA's Division of Surface Water, Environmental Mitigation and Special Permitting Section, reviews and issues the Section 401 Water Quality Certifications and Isolated Wetland Permits for all ODOT projects (in addition to responsibilities related to Section 401 Water Quality Certifications and Isolated Wetland Permits). Permits are issued based on compliance with Ohio Water Quality Standards and under *Ohio Administrative Code* Rules of Wetland Anti-degradation (3745-1-54).

Direct specific questions pertaining to ODOT projects to Art Coleman, ODOT Reviewer, Ohio EPA Division of Surface Water (P.O. Box 1049 Columbus, Ohio 43216-1049), 614-644-2138, art.coleman@epa.state.oh.us

http://www.epa.state.oh.us/dsw/mitigation_ODOT/index.html

The 401 Water Quality Certification Section consists of one manager and six coordinators for the state, which includes **one coordinator dedicated to Ohio Department of Transportation applications.**

... the rules and regulations of the Corps

- Clean Water Act, 33 U.S.C. (Section 404)
- USACE Regulatory Guidance Letter for Mitigation (Waterway Permits Manual: Appendix T)
- USACE Mitigation Guideline Checklist

and the state:

- Clean Water Act, 33 U.S.C. (Section 401)
- ORC Chapter 6111 (Isolated Wetlands)
- OAC, Chapter 3745-1 (Antidegradation Rules)

Address requirements under NEPA and antidegradation:

- Avoidance: taking actions so as to not impact a resource
- Minimization: limiting the degree or magnitude of an action to less resource impacts
- Mitigation: compensatory replacement or substitution of resource functions and values that are unavoidably lost or adversely affected by authorized projects.

Stream and Wetland Mitigation Opportunities Inventory Report / SWMOI Report is required for transportation projects classified as Major. The report is used by ODOT to evaluate and establish a list of suitable/candidate sites/projects that could be used as compensatory stream and wetland mitigation, based on USACE and OEPA criteria. The Inventory includes

- Watershed Groups /Conservation Projects: These types of projects are usually sponsored by conservation organizations such as Park Districts, SWCDs, NRCS, watershed groups, or ODNR. Typically, these groups are seeking funds to acquire, preserve and/or restore large tracts of land, streams and wetlands. *To qualify for ODOT Mitigation the potential watershed/conservation projects need to be located within the impacted 8 Digit HUC watershed and/or adjacent watersheds.* **ODOT District Offices are responsible for initial contact with these groups.** The estimated cost of the watershed/conservation projects needs to be included in the SWMOIR.
- Conservation Easements with Willing Sellers: Potential easements for compensatory mitigation are privately owned parcels that contain stream segments or wetlands that qualify the criteria set by the USACE and Ohio EPA. ODOT uses a watershed approach for investigating potential private properties for mitigation. Contiguous stream segments exhibit better chance of preserving and/or enhancing water quality, functions and values of stream and wetlands. Literature type information is collected and the parcels listed **must have streams with OEPA Aquatic Life Use Designation of Warmwater Habitat or better.** **Wetlands must be ORAM Category II or better.** All communication with willing sellers is through ODOT.
- **ODOT Pooled Mitigation Areas:** Stream and wetland mitigation sites developed for current and future mitigation credit; usually wetland mitigation areas where project specific mitigation sites were developed to maximize site potential.
Wetland Pooled Mitigation Sites:
 - Willow Point Wetland
 - Coonpath Wetland Mitigation
 - Dillon Reservoir WetlandsPooled Stream Mitigation:

St. John's Dam Removal, Sandusky River

- **Excess Parcels:** These are remnant property after the purchase of ROW for a transportation project, which are a landlocked or uneconomical part of the original larger parcel. Excess parcels are a good source of mitigation if they contain streams that qualify under USACE and OEPA criteria. Mitigation on excess parcels is considered on-site.

For Major Projects, potential project areas for mitigation are identified for further study in Step 5 of the PDP (Ecological Field Studies). Potential stream and wetland mitigation areas are evaluated during Step 7 (after the selection of the Preferred Alternative) and cataloged in the SWMOI.

For Minor Projects, potential stream and wetland mitigation areas are evaluated in Step 3 of the PDP after it is determined that mitigation is required to receive waterway permits.

ODOT evaluates two types of stream and wetland mitigation opportunities:

- 1) **On-site Mitigation Opportunities = within close proximity (one mile)** of the project or within the 14 or 11 Digit Hydrological Unit Code (HUC) watersheds where the transportation project occurs, which is preferred by resource agencies. Examples include the alterations to project design to avoid or minimize impacts, relocation of streams within ROW, and enhancement or preservation of existing wetlands.
- 2) **Off-site stream mitigation opportunities = greater than one mile from the project,** and evaluated by following a specific hierarchy.
 - Within the same 8 Digit Hydrological Unit Code (HUC) watershed that stream impacts occur.
 - Within the adjacent 8 Digit HUC watershed and in the same USACE District
 - Within same USACE District
 - Within the same watershed basin (Ohio River or Lake Erie)
 - Within the adjacent USACE District

The evaluation of potential sites for wetland mitigation includes consideration of the potential for wetland enhancement /creation and of the ORAM score and category as an indication of wetland quality.

The evaluation of potential sites for stream mitigation include consideration of stream length, width of the existing forest buffer, stream quality as indicated by the QHEI/HHEI score, and type of stream (Perennial, Intermittent, Ephemeral).

ODOT's Mitigation Design Report is included with 404/401 applications for agency review and approval and must be consistent with USACE mitigation guideline checklist.

ODOT monitors mitigation project construction,

Post-construction monitoring for five years includes yearly wetland monitoring and/or data sampling at the mitigation project site, and preparation of an annual monitoring report. Data is collected and /reported for spring hydrology and wildlife and for summer vegetation, hydrology, water quality, vegetation, and fauna (photographs).

Mitigation Site Selection

In-kind Mitigation

The permitted projects are to provide in-kind mitigation whereby resources are "replaced" with the same type of resource -- wetland for wetland, pond for pond, and stream for stream -- and comparable resource function and value (wildlife habitat, flood control, filtering, erosion control, etc.)

In-kind mitigation where resources are "replaced" with the same type of resource accounts for whether wetlands are isolated or non-isolated. OEPA further classifies wetlands as forested or non-forested (presence of 20' trees) and in one of three categories based on wildlife habitat and hydrological and recreational functions (Categories 1, 2, and 3 represent minimal, moderate, and superior functions, respectively). Applicants are encouraged to look for opportunity to restore wetlands (re-establish a previously existing wetland) before looking for wetland creation, enhancement or preservation. OEPA has mitigation ratio requirements.

The Ohio Wetlands Task Force was formed in August 1992 to begin discussing the formation of a State Wetland Conservation Plan. In February 1994, a Report and Recommendation was prepared.

On-site Mitigation

Preference is given to on-site mitigation: within a 1-mile radius of the proposed impact and within the same watershed. Where on-site cannot adequately replace impaired functions or is not technically feasible, then off-site mitigation may be allowed within the same HUC 8 watershed (*the Great Miami River Basin is combined with the 8-digit Whitewater and Ohio River areas*). For Category 1 wetlands, mitigation can occur outside the HUC 8 watershed but within the same Army Corps of Engineers District boundaries.

Mitigation Clearinghouse

Ohio EPA has developed the Surface Water Enhancement, Restoration and Protection (SWERP) Clearinghouse (replaces the Mitigation Clearinghouse). The SWERP Clearinghouse is intended to facilitate surface water improvement projects that involve restoration, protection or enhancement. The Clearinghouse can be used to identify potential projects for submission to Ohio EPA through the 401 Water Quality Certification and Isolated Wetland Permit process. It identifies potential projects that may be selected as compensation for environmental impacts to streams, wetlands and lakes.

The potential projects are submitted by land owners, government agencies, watershed coordinators and others.

SWERP Clearinghouse submissions are not evaluated by Ohio EPA or any other organization prior to their listing in the Clearinghouse. The project list is comprised of voluntary submissions and does not represent a list of "approved" projects. The relevance and applicability must be evaluated by those selecting projects from this Clearinghouse and will ultimately be reviewed by Ohio EPA as part of an applicant's permit application or by other entities responsible for implementing surface water protection initiatives. Properties listed in the SWERP Clearinghouse must be owned by the applicant, or the property owner must have given express approval for listing the property in the Clearinghouse.

Permit applicants can use the Clearinghouse database to identify potential sites by 8-digit HUC. Applicants are responsible for contacting the listing agency, organization, or individual and

determining if a site satisfies project requirements. It is the applicant's or defendant's responsibility to determine if any of the listed projects are still available or viable.

Mitigation Banks

~~Mitigation banks can be used for mitigating impacts to wetlands. Construction of mitigation wetlands can occur as single projects or as mitigation banks where large acreages of wetlands are restored or created to compensate for wetland losses resulting from completed projects. / In addition to sites listed in the Clearinghouse, some sites have prior approval as Wetland Mitigation Banks. Banks can be created in coordination with the appropriate District office of the Army Corps of Engineers.~~

Ohio ecological assessment of Ohio Wetland Mitigation Banks in 2003-04.

OEPA studies of mitigation wetlands and banks in 1995, 2001, and 2003-04 confirmed NAS Conclusion: The goal of no net loss of wetland is not being met for wetland functions by the mitigation program, despite progress in the last 20 years. NAS recommendations to assure that "no net loss" is attained:

Avoid wetlands that are difficult or impossible to restore, such as fens and bogs

Site selection for mitigation should be conducted on a watershed scale (*OEPA proposes for "onsite" to mean 14 or 8 digit HUC watersheds*)

The Mitigation Banking Review Team (MBRT) is comprised of the Corps, EPA U.S. Fish and Wildlife Service, USDA Natural Resources Conservation Service (NRCS), ODNr and Ohio EPA. The Corps serves as team leader of the process and has final decision authority in the drafting of the MBRT agreement, required for all projects.

There are 12 mitigation banks in Ohio which are all privately owned

Consider whether bank site has wetland restoration potential; review and comment on design plan; sign final agreement to authorize bank; perform site visits and review of monitoring reports for 5 years; after 5 years, banker is relieved of responsibility and site turned over to long-term manager; Corps and OEPA regulate the site in perpetuity as a jurisdictional wetlands

ODOT's *Waterway Permit Manual, Appendix G: MBRT Approved Wetland Mitigation Banks for State of Ohio, 2009* 92 pages

http://www.dot.state.oh.us/Divisions/TransSysDev/Environment/Ecological_Resources/Permits/WATERWAY_PERMITS/Documents/Appendices/AppendixG.PDF

Review Down-loaded info

In Lieu Fee Program

N/A

2006 Urban Wetland Study

Mitigation of Wetland Impacts

Isolated Wetlands that are not defined as waters of the United States – and thus not protected by requirements for Section 404 permits, which also limits the application of Section 401

certification rules – are considered waters of the state under Ohio Law. Ohio provides protection for isolated wetlands by establishing an isolated wetland permitting program.

The isolated wetlands permitting program outlines three levels of review:

- Filling a Category 1 or Category 2 Isolated wetland of ½ acre or less: requires a general State isolated wetlands permit and is subject to Level 1 review
- Filling a Category 1 or Category 2 Isolated wetland of greater than ½ acre but less than or equal to 3 acres: requires an individual State isolated wetlands permit and is subject to Level 2 review
- Filling a Category 2 Isolated wetland of greater than 3 acres or a Category 3 wetland: requires an individual State isolated wetlands permit and is subject to Level 3 review

Any federally-regulated discharge of dredged or fill material or discharges of effluent from confined disposal facilities to waters of the state requires a Section 401 certification. Filling isolated wetlands, which are exempted from Section 404 permitting requirements, must be authorized by a general or individual isolated wetlands permit

Wetland Water Quality Standards

Ohio Administrative Code 3745-1-50, 51,52,53,54

Wetland Designated Use (3745-1-52) includes numeric wetland biocriteria and wetland tiered aquatic life uses

Wetland Chemical Criteria

Ohio's Water Quality Standards (OAC 3745-1) were developed by Ohio EPA. These standards include definitions, numerical and narrative criteria, designated uses for streams, and an antidegradation rule. However, these rules primarily apply to streams and lakes. Specific wetland water quality standards were developed by Ohio EPA and placed in OAC Sections 3745-1-50 through 1-54. Wetlands are assigned a designated wetland use in the Wetland Rules, OAC 3745-1-53.

Wetland Antidegradation Rule

“wetland rules” define categories of wetlands: Category 1 (low quality), Category 2 (medium quality), and **Category 3 (highest quality)** based the Ohio Rapid Assessment Method (ORAM), a methodology developed at Ohio EPA. The rules prescribe mitigation ratios based on wetland category type

Define three protection categories, alternatives analysis, mitigation monitoring, performance, ratios

Ohio anti-degradation policy applies to wetlands. The policy requires “wetland designated use” to be “maintained and protected such that degradation ... through direct, indirect, or cumulative impacts does not result in the net loss of wetland acreage or functions...” (Ohio Administrative Code 3745-1-54).

As a matter of practice through the avoidance, minimization and mitigation requirements of antidegradation, wetland losses must be minimized and replaced by at least a 1:1 ratio. Higher quality

wetlands or wetlands that are more difficult to replace have replacement ratios of 1.5:1 or 2:1. The intent is to maintain wetland acreage of similar or better quality, not to increase wetland acreage in the state

For project review, Ohio EPA classifies wetlands into categories based on their functions and values, sensitivity to disturbance, rarity, and potential to be adequately compensated for by wetland mitigation. The Director considers these categories when determining whether to authorize a proposed lowering of water quality/whether degradation of the wetland can be authorized. The director may also consider the regional significance of the wetland's functions (e.g., hydrologic functions in watershed management plans) and other environmental impacts that may be a consequence of approving the request. (Wetlands that have been degraded or destroyed without prior authorization are considered as Category 3, but the category may be lowered based on certain considerations).

Wetland Mitigation Categories and Requirements

Ohio wetlands are classified in one of three categories, with 1 supporting minimal wildlife habitat and hydrological and recreational functions and 3 having the highest quality. (***IN addition to assigning a wetland a category, the director may designate a wetland which has national ecological or recreational significance as an outstanding national resource water pursuant to rule 3745-1-95 of the Administrative Code.***)

For all categories, wetland impacts can be compensated for only after the project applicant demonstrates that adverse effects cannot be avoided or adequately minimized. The preference is for compensatory mitigation/wetland replace to occur onsite and to be in-kind (e.g., forested, non-forested). As indicated in the table below, compensation involves replacing the degraded wetland area with a larger wetland of equal or higher quality.

Ohio Mitigation Requirements by Wetland Category				
Wetland Category	On-site Mitigation Ratio	Off-site Mitigation Ratio	Replacement by Wetland Category...	Location for Compensatory/Off-site Mitigation
Category 1	1.5:1 for Non-forested and Forested	1.5:1 for Non-forested and Forested	2 or 3	Within the same U.S. Army Corps of Engineers District
Category 2	1.5:1 for Non-forested 2:1 for Forested	2:1 for Non-forested 2.5:1 for Forested	2 or 3	Within the same watershed (as defined by 8-digit HUC*)
Category 3	2:1 for Non-forested 2.5:1 for Forested	3:1 for Non-forested 2.5:1 for Forested	3	Within the same watershed (as defined by 8-digit HUC*)
* The 8-digit Great Miami, Whitewater, and Middle Ohio Laughery watersheds are combined as one watershed for application of the Wetland Water Quality Standard				

Mitigation of wetland impacts also includes requirements that address stormwater quality and peak runoff rates.

Requirements for Mitigation Locations

The preference is for the mitigation project to be located in a mitigation bank service area, and for the mitigation project and affected wetland area to be in the same service area. As indicated in the table above, the mitigation project is to be located in the watershed with the same 8-digit hydrologic unit code as the affected Category 2 or Category 3 wetland, or within the same District of the U.S. Army Corps of Engineers if it is a Category 1 wetland. Compensatory mitigation may occur in an adjacent watershed if it would result in a substantially greater ecological benefit (?).

Monitoring and Protection of Mitigation Project

Monitoring of the compensatory mitigation project is required for at least five years (may be shortened or lengthened by the director based on project effectiveness). Requires /involves reporting and follow-up site visits.

The applicant must demonstrate that the compensatory mitigation site will be protected in perpetuity....

Ohio EPA does have a database to track mitigation losses and gains related to the permitting process. We also have two wetland ecologists and interns who have been studying the success/failure of mitigation projects.

Compensatory Mitigation Options

Wetland restoration shall be the form of compensatory mitigation unless it can be demonstrated by the applicant that wetland restoration is impracticable. Alternatives include wetland creation and wetland enhancement. These – and also the preservation of high quality wetlands and non-wetland buffers adjacent to Category 2 or Category 3 Wetlands -- may be considered on a case-by-case basis. The director may consider wetland preservation for mitigation if the wetland to be preserved is a Category 3 Wetland to be preserved in perpetuity or otherwise important for habitat or water quality and can be permanently preserved. Preservation can occur only as a component of a mitigation project in which wetlands are restored or created and at a rate of two acres for every remaining acre of the compensatory wetland requirement. There are also provisions for non-wetland buffers where they can be preserved and consist of natural vegetation

<http://codes.ohio.gov/oac/3745-1-54> or October 2007 version w Wetland Categories table at <http://www.registerofohio.state.oh.us/pdfs/3745/0/1/3745-1-54 PH FYR C RU 20071031 1121.pdf>

Evaluation tools have been developed to assist in the evaluation of wetlands and can be used to determine quality of wetlands proposed to be impacted. This information, in conjunction with emphasis placed on avoidance and minimization of impacts as required by rule, helps us determine whether a project should be permitted and whether the impacts can be adequately mitigated. These tools include:

ORAM Version 5: used to evaluate wetlands before they are impacted.

Vegetative Index of Biotic Integrity for Wetlands / VIBI (November 2001)

Amphibian Index of Biotic Integrity for Wetlands / AmphBI (April 2002)

Floristic Quality Assessment Index for Vascular Plants and Mosses for the State of Ohio
(Wetland bio-assessment techniques are being developed at Ohio EPA)

Are all of the above parts of an Integrated Wetland Assessment Program (July 2004)?

(Part 4 = A Vegetation Index of Biotic Integrity (VIBI))

Another part =

Tiered Aquatic Life Uses / TALUs developed for Ohio Wetlands

Wetland Index of Biological Integrity / Wetland IBI

Ohio EPA has developed a Wetland Index of Biological Integrity. The IBI is a measure of wetland species, diversity, and populations with scores that range from 0 to 60. High scores represent high diversity (above 50 is good). Wetland IBIs are used as part of mitigation performance in 401 permit conditions.

Ohio Rapid Assessment Method (ORAM)

Ohio EPA developed the Ohio Rapid Assessment Method (ORAM) to evaluate wetlands before they are impacted (finalized in 2001). ORAM was designed as an assessment tool for performing regulatory categorization of wetlands; it can also be used for determining levels of ecological integrity in a wetland (wetland condition assessment method). The goal is to be able to use and rely on ORAM results in place of level 3 data in permit decisions, condition assessments, etc.

ORAM is used to quickly estimate the function and quality of wetlands through a survey of wetland size, buffers, surrounding land uses, water sources, habitat, special features, plant communities and their distribution and other habitat features to help determine the quality of the wetland. It is not a recommended tool for evaluating mitigation wetlands, although it can be useful for indicating quality. ORAM is being used as a foundation for several other states' wetland assessment methods.

Ohio Wetland Restoration and Mitigation Strategy Blueprint, 1999

- By OEPA and ODNR with USEPA grant
- Desire to develop a state restoration and mitigation policy and identify high quality wetlands
- lays out a model for identification of high priority areas for protection, restoration, and mitigation
- includes a strategy for implementation of a state wetland mitigation banking policy and state restoration goals
- wetland restoration maps for 8 counties along Lake Erie

More notes relevant for consultations

- Higher quality wetlands and wetlands that are more difficult to replace have higher replacement ratios = intent is to maintain wetland acreage of similar or better quality, not to increase wetland acreage (mitigation ratios are linked to wetland category)
- In-lieu-fee program is NA?
- OEPA has a database to track mitigation losses and gains related to the permitting process (401 wq certification and isolated wetlands permitting program)
- A Status and Trends report is prepared annually for wetland impacts and acreage (at least up to 2004) / now?
- DSW typically issues about 200 401 certifications and isolated wetlands permits per year (2008 source)

- ODNR Div of Wildlife conducts 404 permit reviews under the Fish and Wildlife Coordination Act
- WET = Wetland Evaluation Team established in 2007 in NW Ohio... possibility of WET begin assigned to SW Ohio - = Div of Wildlife agreement with NRCS to create a new FTE as part of a WET to assist NRCS with wetland delineation and restoration associated with USDA farmland compliance and conservation programs.
- OEPA manages the regulatory aspects of wetlands management and protection (focus on mitigation or encouraging constructed wetlands for stormwater/wastewater treatment)
- Most state restoration activities area through the ODNR Division of Wildlife ... these restorations are targeted in counties located in the wetland focus areas identified in the Div of Wildlife Strategic Plan
- Stringent monitoring requirements for mitigated wetlands; monitoring of restored wetlands is generally not conducted in Ohio unless state, fed, or university funding is provided to do so

Mitigation of Impacts on Streams and Other Resources

Stream Mitigation

Streams that are not defined as waters of the United States – and thus not protected by requirements for Section 404 permits, which also limits the application of Section 401 certification rules – are considered waters of the state under Ohio Law. In early 2009, rules were proposed for protecting isolated streams by establishing a state water quality permit. Stream mitigation may include bank stabilization using biotechnical erosion control techniques, riparian corridor protection or establishment, in-stream habitat enhancement, or re-establishment of flood plain areas.

USACE REGULATORY GUIDANCE LETTER

Waterway Permits Manual: Appendix T

- IN GENERAL THE GUIDELINES REQUIRE MORE RIGOROUS ASSESSMENT OF MITIGATION FOR STREAMS AND WETLANDS
- MITIGATION PLANS HAVE TO BE APPROVED BY USACE PRIOR TO ANY IMPACTS TO "WATERS OF THE U.S."

Stream Mitigation Criteria (per ODOT power point/for transportation projects)

General Criteria

- Occurs within the effected 8 Digit USGS watershed.
- Within 1 mile of project mitigate at 1:1ratio.
- More than 1 mile from project minimum mitigation at 1.5 to 1 ratio.

Stream Preservation Criteria

- Priority to preserving EWH, CWH, SSH, and WWH streams.
- Fee simple purchase or permanent conservation easement required.
- Buffer width :
 - 100 foot on either side of large streams
 - 50 feet on either side for headwater streams.

Currently stream mitigation is negotiated on a project by project basis through the waterway permit process

Waterway Permits Manual, ODOT's Office of Environmental Services, Ecological Resources and Permits

http://www.dot.state.oh.us/DIVISIONS/TRANSSYSDEV/ENVIRONMENT/Ecological_Resources_Permits/WATERWAY_PERMITS/Pages/MANUALSANDFORMS.aspx

2008: stream mitigation provisions are not yet specified in Ohio, although a stream mitigation protocol document has been developed

Lake Mitigation

Mitigation of lake impacts may include enhancing fish habitat along the shore.

Mitigation in OKI's Ohio Counties

Ohio EPA Division of Surface Water uses the Surface Water Information Management System (SWIMS) to track permitting activities for the Division

SWERP Clearinghouse Sites

Ohio EPA's clearinghouse lists twenty potential mitigation sites by watersheds defined by 8-digit hydrologic unit code. The Little Miami River watershed is the only area listed for the OKI Region. It identifies twenty potential projects (September 2009). Eighteen are in Clermont County; two are in Warren County. Sites are listed by four agencies/organizations:

Clermont Co. Office of Environmental Quality (10 sites)

Clermont Co. Storm Water Dept. of the Clermont Co. Water & Sewer Distr. (6 sites)

Clermont Co. Park District (1 site)

Little Miami, Inc. (2 sites)

Ohio Wetlands Foundation (1 site)

The mitigation opportunities involve...

stream restoration or preservation (about 13 miles for four streams)

wetlands creation (about 4½ acres),

wetlands restoration (15-20 acres), and

pond creation (about 18,000 square feet).

Mitigation Banks

In addition to sites listed in the Clearinghouse, some sites have prior approval as Wetland Mitigation Banks. The Ohio portion of the OKI Region does not have a Wetland Mitigation Bank. Banks can be created in coordination with the appropriate District office of the Army Corps of Engineers.

Mitigation Project Locations

An Inventory of Ohio Wetland Compensatory Mitigation. Final Report to USEPA (under grant) 2003 and 2005, by OEPA Division of Surface Water, Wetland Ecology Section

www.epa.state.oh.us/dsw/wetlands/Mitigation_info.html

- lists 109 projects

- 2 are in the OKI Region

- 5.86 acres of wetland constructed in 2003: Project ODOT_But-129-24 in 2003 affected 2.32 acres of wetland and resulted in construction of 5.86 acres of wetland (3.8 acres required as mitigation under Section 401 WQ Certification)

- 0.98 acre of wetland constructed in 2003: Project Meijer Gilmore Road in Clermont County in 2003 affected .64 acres of wetland and resulted in construction of .98 acres of wetland (1.13 acres required as mitigation under Section 401 WQ Certification)

Huntington District: Meldahl Locks & Dam in eastern Clermont County and upstream Caesar Cr as "consolidated wetlands stream mitigation project" to serve needs of multiple applicants in Huntington Distr (per Ohio Wetlands Foundation website)

Considerations for Consultations

- Sites in the Mitigation Clearinghouse are concentrated ... assumed that sites were submitted in conjunction with preparation of 104(b) report through East Fork LMR Watershed Collaborative - need to increase awareness of this opportunity in other parts of the OKI Region?
- How successful has the Mitigation Clearinghouse list been? Have sites been used for mitigation?
- OEPA approach is for mitigation in the same 8-HUC. Would there be value in identifying priority areas for mitigation in each of these watersheds?
- *If warranted, confirm that the pink area on the map of Watersheds for Wetland Water Quality Standards in the ORC 3745-1-54) is intended to indicate an area for which mitigation can be based on a combination of HUCs rather than individual HUCs.*

Role of Local Governments

Local governments may comment on an application for a Section 401 water quality certification or request a public hearing. Local governments are also encouraged to adopt local ordinances to enhance protection of riparian setbacks
Ohio EPA has no joint permitting procedures with the Corps or local governments

Sources

Summary of Ohio wetland programs on website of Association of State Wetland Managers
<http://aswm.org/swp/ohio9.htm>

online ppt presentation by John J. Mack, Wetland Ecology Group, OEPA Div. of Surface Water

Ohio Wetland Antidegradation Rule

<http://codes.ohio.gov/oac/3745-1-54>

and also October 2007 version w Wetland Categories table at

http://www.registerofohio.state.oh.us/pdfs/3745/0/1/3745-1-54_PH_FYR_C_RU_20071031_1121.pdf

ODOT website

<http://www.dot.state.oh.us/DIVISIONS/TRANSSYSDEV/ENVIRONMENT/Pages/default.aspx>

SWERP Clearinghouse

<http://www.epa.ohio.gov/dsw/swerp/index.aspx>

Appendix F

Preliminary: Federal Agencies for Potential Participation in Mitigation Consultations

NOTE: This list identifies 1) Federal land management, wildlife, and regulatory agencies and their regional or state offices that may be appropriate for consultation on the plan's discussion of potential mitigation activities and 2) the agency's responsibilities or programs to restore or maintain environmental functions that may be valuable for consultation purposes and 3) possible contacts. **Bold font** highlights relevant programs or is a preliminary indication of key agencies or contacts.

Potential FEDERAL AGENCIES for Consultation on Mitigation	Ohio Contact	Kentucky Contact	Indiana Contact
U.S. Department of Defense			
<p>U.S. Army Corps of Engineers 8 Regional Divisions divided into watershed-based Districts Great Lakes and Ohio River Division www.lrd.usace.army.mil/ 550 Main Street, Room 10032 Cincinnati, OH 45202-3222 Phone: 513-684-6212</p> <ul style="list-style-type: none"> ▪ FY08 Budget priority to the operation, maintenance, & rehab of the Ohio River and other waterway segments that support high volumes of commercial traffic - O&M Budget funds "Mitigation of impacts on shorelines due to the operation & maint of fed navigation activities" - Civil Works Budget includes 3 aquatic ecosystem restoration initiatives (0 in OKI Reg) ▪ Evaluates permit applications for construction activities in wetlands & the nation's waters / construction & dredging in navigable waters (Ohio River & GMR, LMR, Licking) ▪ Assists states in planning & development of water resources ▪ Some Districts have established Mitigation Banks (not in OKI Region) ▪ Louisville District administers The Stream Fund (Stream Restoration Fund) in coordination with the Ky. Division of Water (in KyEEPC). The source of funds is In-Lieu Mitigation fees for "unavoidable stream impacts." The Corps is 1 of 5 members of a Mitigation Review Team of The Stream Fund (Ky. Div. of Water, USFWS, Ky. Fish & Wildlife, USEPA). In Northern Kentucky, the NKU Center for Applied Ecology has used The Stream Fund to restore more than 14 miles of stream and 180 acres of riparian area. ▪ Are there agreements for use of in-lieu mitigation fees in Ohio and Indiana? <p>Louisville District functions include</p> <ul style="list-style-type: none"> ▪ Flood Damage Reduction (Operations Div), ▪ Regulatory Oversight of Wetlands (Operations Div) <p>www.lrd.usace.army.mil/regulatory/ Operations Division includes 5 branches (incl Regulatory) 6 project areas</p> <ul style="list-style-type: none"> ▪ Miami River Project includes Caesar Cr Lake (Waynesville ofc), W Fork of Mill Cr Lake (Cinti ofc), Wm. H. Harsha Lake (Batavia ofc) ▪ Markland Lock & Dam (upper pool extends 95.3 miles to Meldahl Locks & Dam & short distance up three navigable tribs: the Miami, Licking, and Little Miami Rivers) 	<p>Huntington District Meldahl Locks & Dam (E Clermont Co.) & upstream</p> <p>502 Eighth Street Huntington, WV 25701 304-399-5000</p> <p>▪ Note: Check reference to Caesar Creek as "consolidated wetlands stream mitigation project" to serve needs of multiple applicants in Huntington Corps District (per Ohio Wetlands Foundation website)</p>	<p>Louisville District 502-315-6104 for Planning, Programs, & Prjct Mgmt Div 502-315-6766 for Public Affairs Ofc</p> <p>contact for NKU In-Lieu Fee Program (administers the Stream Fund in coord w Ky Div of Water) Lee Anne Devine, USACE Louisvl Distr POBox 59 Louisvil, Ky 40201</p> <p>Regulatory Program: Div. Regulatory Progrm Mngr 513-684-7261</p> <p>Corps Regulatory Program (Civil Works) www.usace.army.mil/cw/cecwo/reg/</p> <p>Note: "The USACE has given the developer of ... Subdivision permission to change or destroy 2 intermittent stream channels that drain into Banklick in exchange for work along the creek itself." (07 news)</p>	<p>Louisville District</p>

Department of the Interior / DOI

<p>National Park Service / NPS The Rivers and Trails Division</p> <p>The RTCA Program works to conserve rivers, preserve open space, and develop trails and greenways.</p> <ul style="list-style-type: none"> Examples of and resources for "Restoration" at www.nps.gov/ncrc/portals/rivers/projpg/restoration.htm For rivers in the Nationwide Rivers Inventory/NRI (potentially qualify for designation as national wild, scenic or recreational areas: GMR, Fourmile Cr, Laughery Cr), the RCTA considers requirements for each federal agency to avoid or mitigate adverse effects <p><i>Could not find info on NPS structure or staff on web (except regional offices) / googled NPS staff involved in OKI SW Warren study regarding LMR crossing:</i> Sue Jennings, Wild & Scenic Rivers Program Leader for Midwest Region in Omaha Paul Labovitz was Midwest Reg Program, Leader for Rivers & Trails, I think out of Cleveland / now Supt of Minn. NPS / who is replacement? Robinson?</p>	<p>Midwest Region NPS 1709 Jackson Street Omaha, Nebraska 68102 402-221-3431 Ernie Quintana, Reg. Dir.</p> <p><i>Regional Office, RTCA National Park Service 2179 Everett Road Peninsula, OH 44264 Andrea Irland andrea_irland@nps.gov (330) 657-2378</i></p> <p>Rory Robinson rory_robinson@nps.gov 330-657-2951 NOTE: Contact Robinson to inquire position&locatn</p> <p>Sue Jennings Wild & Scenic Rivers Program Leader for Midwest Region 402-661-1848</p>	<p>Southeast Region NPS <i>Regional Office, RTCA National Park Service Atlanta Federal Center 1924 Building 100 Alabama Street, S.W. Atlanta, Georgia 30303</i> Deidre Hewitt, Program Leader deidre_hewitt@nps.gov (404) 562-3175</p> <p>Jeff Duncan NPS Rivers, Trails and Conservation Assistance 424 Georgia Ave, St. 2B Chatanooga, TN 37403 423-266-1150</p>	<p>Same as Ohio</p>
<p>U.S. Fish and Wildlife Service / USFWS</p> <p>The Division of Ecological Services (regional offices and state field offices)...</p> <ul style="list-style-type: none"> Reviews planning and permits for federal construction projects (highways, Corps...) for impacts to Endangered, threatened, and rare species (would apply to areas in OKI region) <i>check for wording</i> Is responsible for reducing project impacts on fish and wildlife resources and ensuring that mitigation is provided to achieve fish and wildlife benefits (USFWS trust resources: endangered species, ..., migratory birds, and wetland-related habitats) Established an Ohio River Valley Ecosystem Team (USFWS) www.fws.gov/orve includes Mary Knapp (& Ken Lammers & Angela Boyer from Ohio ofc), Lee Andrews, Jeff Kiefer 	<p>Ohio Ecological Services (USFWS) Mary Knapp, Ph.D, Field Supervisor 614-469-6923 mary_m_knapp@fws.gov 6950 Americana Parkway, Suite H Reynoldsburg, OH 43068-4127</p> <p>Transmitted letter to OKI Sept 07 on USFWS responsibilities, relationship w ODOT, interest in involvement in OKI planning, & reference to future contact with OKI.</p>	<p>Kentucky Ecological Services (USFWS) www.fws.gov/frankfort/ Lee Andrews, Field Supv 502-695-0468 x221 lee_andrews@fws.gov 3761 Georgetown Rd Frankfort, KY 40601</p> <p>1 of 5 members of Mitig Review Team for The Stream Fund (see description under Corps)</p>	<p>Indiana Ecological Services (USFWS) www.fws.gov/midwest/Bloomington/ Scott Pruitt, Field Supv. Scott_Pruitt@fws.gov+ 812-334-4261 620 S. Walker St. Bloomington, IN 47403 Jeff Kiefer on ORVE Team at same phone number</p> <p>National lead for recovery of the Indiana bat (only mammal in OKI Region with federal listing as Endangered)</p>

U.S. Department of Agriculture / USDA NOTE: research needed for agencies involved in farmland preservation?

<p>Natural Resources Conservation Service/NRCS</p> <p>USDA funds position & office for Coordinator of Resource & Development (RC&D) Councils, which are NPOs sponsored by member county SWCDs & Commissioners "to accelerate the conservation, development and utilization of natural resources, improve the general level of economic activity, and enhance the environment and standard of living..." Projects relate to Land Conservation, Land Management, Community Development, & Water Management</p> <p>In the OKI Region, the Miami Valley RC&D initiatives include helping to found and support 1) the Little Miami River Partnership (TenWolde) and 2) Livable Landscapes, in addition to supporting the developing of historical societies and preservation projects and ...</p>	<p>Ohio NRCS partners w Oh Fed of SWCDs, ODNR Div of SWC, & Ohio's local SWCDs USDA-NRCS State Ofc. 200 N. High St, Rm. 572 Columbus, OH 43215 614-255-2472</p> <p>NRCS Area 4 / Englewood</p> <p>Miami Valley RC&D Larry Whitaker, Coordinator 695-1187 777 Columbus Ave, St.5B Lebanon, OH 45036</p>	<p>Kentucky NRCS</p>	<p>Indiana NRCS</p> <p>Historic Hoosier Hills RC&D Gary Conant 812-689-6410 PO Box 407 Versailles, IN 47042</p>
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U.S. Department of Transportation

<p>Federal Highway Administration</p> <p>▪ SafeteaLUPanning: Illustrative Examples http://www.fhwa.dot.gov/planning/metro/sftluexamp.htm</p> <p>▪ Exec Order 13274 (2002) to promote environmental stewardship in the nation's transportation system</p> <p>▪ Eco-Logical: An Ecosystem Approach to Developing Infrastructure Projects (2006) shows how transportation and natural resources agencies can engage in integrated planning / endorses ecosystem-based mitigation</p>	<p>FHWA, Ohio Div. Dennis Decker, Div. Admin. 200 N. High St, Room 328 Columbus, OH 43215 www.fhwa.dot.gov/ohdiv/staff.htm Environment Program under Dave Snyder 614-280-6852 Environment Team's Resp.s incl Ineragecny Coord, Env Stewardship...</p>	<p>FHWA, Kentucky. Div. Jose Sepulveda, Div. Adm. 330 W. Broadway, Rm 264 Frankfort, Ky 40601 Env Specialist Anthony Goodman 502-223-6728 www.fhwa.dot.gov/kydiv/person/htm</p>	<p>FHWA, Indiana Div. Robert F. Tally, Jr., P.E., Div Adm 575 N Pennsylvania St, Rm 254 Indianapolis, IN 46204</p>
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U.S. Environmental Protection Agency

	<p>Region V</p>	<p>Region IV</p> <p>1 of 5 members of Mitigation Review Team- see note for USFWS</p>	<p>Same as Ohio</p>
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Additional Notes

DOI / Dept. of the Interior

NPS / National Park Service

Maintains NRI/National Rivers Inventory as register of river segments that potentially qualify as national wild, scenic or recreational river areas in partial fulfillment of Section 5(d) requirements

Rivers and Trails Division

RCTA Program works to conserve rivers, preserve open space, and develop trails and greenways.

RCTA considers requirements for each federal agency to avoid or mitigate adverse effects to rivers in NRI

Indiana GIS Atlas includes ...

ODNR has ...

Administers the National Register of Historic Places

Regional office...

USFWS / U.S. Fish and Wildlife Service

Division of Ecological Services (regional offices and state field offices)...

- **Reviews planning and permits for federal construction projects (highways, Corps...) for impacts to Endangered, threatened, and rare species (would apply to areas in OKI region)**
 - **Is responsible for reducing project impacts on fish and wildlife resources and ensuring that mitigation is provided to achieve fish and wildlife benefits (USFWS trust resources: endangered species,...., migratory birds and, wetland-related habitats)**
 - **Established an Ohio River Valley Ecosystem Team (USFWS) www.fws.gov/orve includes Mary Knapp (& Ken Lammers & Angela Boyer from Ohio ofc), Lee Andrews, Jeff Kiefer**
- Endangered Species Program to identify, protect, & restore endangered & threatened species**

National Wetlands Inventory

Ohio Ecological Services (USFWS), Mary Knapp, Ph.D, Field Supervisor

Transmitted letter to OKI Sept 07 on USFWS responsibilities, relationship w ODOT, interest in involvement in OKI planning, & reference to future contact with OKI.

Kentucky Ecological Services (USFWS), Lee Andrews, Field Supv

1 of 5 members of Mitig Review Team for The Stream Fund (see description under Corps)

Indiana Ecological Services (USFWS), Scott Pruitt, Field Supv.

National lead for recovery of the Indiana bat (only mammal in OKI Region with federal listing as Endangered)

Responsible for review of most federal construction projects (incl ArmyCorps, hydro & wind projects, highway)

Endangered species

USDA / Department of Agriculture

Natural Resources Conservation Service/NRCS

NRI / National Resources Inventory

Miami Valley RC&D

helped establish & support 1) the Little Miami River Partnership (Tenwolde) and 2) Livable Landscapes and 3) support the development of historical societies and preservation projects

Historic Hoosier Hills RC&D, Gary Conant

EPA/Environmental Protection Agency

Region V

Region IV

1 of 5 members of Mitigation Review Team

DOD / Department of Defense

USACE / US Army Corps of Engineers

Evaluate permit applications for 1) construction activities in wetlands & waters 2) construction & dredging in navigable waters (OR, GMR, LMR, LR) mitigation of wetlands

Great Lakes and Ohio River Division (8 Divisions sub-divided into watershed-based Districts)

O&M budget funds mitigation of navigation impacts on shoreline

Civil Works Budget funds 3 aquatic ecosystem restoration initiatives (none in OKI Region)

Louisville District

Can establish mitigation banks (none in OKI Region)

Administers the Stream Fund/Stream Restoration Fund in coord w Ky Div of Water (KyEEPC)

1 of 5 members of Mitigation Review Team

Permitted developer of Subdivision to change or destroy 2 intermittent stream channels that drain into Banklick in exchange for work along the creek itself. (07 news)

Operations Division

Regulatory Branch (5 Branches)

oversight of wetlands (www.lrd.usace.army.mil/regulatory/)

Miami River Project (6 project areas)

incl. Caesar Cr Lake (Waynesville ofc), W Fork of Mill Cr Lake (Cinti ofc), Wm. H. Harsha Lake (Batavia ofc)

Huntington District: Meldahl Locks & Dam in eastern Clermont County and upstream

Caesar Cr as "consolidated wetlands stream mitigation project" to serve needs of multiple applicants in

Huntington Distr (per Ohio Wetlands Foundation website)

DOT / Dept. of Transportation

FHWA / Federal Highway Administration

responsible for implementing the NEPA process and working with state and local project sponsors during transportation project development

Provides resources for strengthening planning and environmental linkages www.environment.fhwa.dot.gov/integ/index.asp#benefits

FTA / Federal Transit Administration

NEPA / National Environmental Policy Act of 1969

established a national policy to promote the protection of the environment in the actions and programs of federal agencies

Appendix G

Mitigation Processes for Wetlands by State

based on information in State Wetland Protection...State Profiles, 2008 by Environmental Law Institute

	Ohio	Kentucky	Indiana
State Responsibilities for Mitigation of Wetland Impacts			
401 certification to ensure consistency with state water quality standards (for projects that require a 404 permit from the Corps and any other activity that requires a federal permit or license & involves a discharge into waters of the state)	401 certification is administered by OEPA Div of Surface Water - review for permits involves use of model ORAM to classify wetlands & determine level of regulation & review	401 certification is administered by Ky Dept for Env Prot-Div of Water / KDOW's WQ Certif Section - certification is partly based on conditions that include retaining original streamside elevations, re-vegetation of project area, restriction of in-stream work to low-flow conditions....	401 certification is administered by IDEM - certification is based on conformance with state law, including water quality standards - certification is denied if impacts can be avoided or minimized or if proposed compensatory mitigation is insufficient to offset effects
Provisions for isolated wetlands (wetlands that do not require a 404 permit from the Corps)	Isolated wetland law administered by OEPA Div of Surface Water: 3 tiers of regs for 3 wetland categories based on ecol signif and with dif level of rvw, dif criteria for permit, dif mitig req.s - no min size		A permitting program administered by IDEM for activities in state-regulated wetlands (incl many isolated wetlands / program targets isolated wetlands) to "promote a net gain in high quality isolated wetlands & ... assure that compensatory mitig will offset the loss of isolated wetlands" allowed by the permitting program)"
Additional			Provisions for wetlands situated within floodways: Under state's Flood Control Act & ...), DNR regulates activities conducted in the area within the floodway (often encompasses wetlands & streams) produced by the regulatory flood (equivalent to 100-yr frequency flood) - permit applics rvw.ed by 3 ODNR divisions: Fish & Wildlife, Water, & Nature Preserves (IDNR does not operate a program dedicated solely to wetlands)
Nationwide Permits (for projects that pose minimal impacts)	Oh w cond.s; Corps presents a provisional NWP and OEPA then approves or waives review - a 2002 ltr to Corps fr OEPA w cond.s for streams (excl specially designated streams...) & for wetland & streams (dev of stormwater ponds...)	Ky w conditions to prohibit dredging in certainig sites, including near mussel beds	IDEM denied a # of NWPs - IDEM & Corps dev.ed a Regional General Permit - Corps uses RGP to authorize projects that affect less than 1 acre provided they comply w conditions outlined in RGP
Water quality standards as basis for determining certification	Oh has adopted Wetland WQ Standards (1998) - all wetlands assigned a "wetland designated use" - additional narrative criteria (to protect and measure attainment of designated use) apply specifically to wetlands - regs outline numeric criteria for wastewater discharges to wetlands	Ky has not adopted wetland-specific wq standards, but standards applicable to all surface waters are also applicable to wetlands	IND WQ standards do not identify criteria, designated uses, or anti-degrad standards specific to wetlands - wetland functions are related to WQ standards & surface water designated uses

Mitigation Processes for Wetlands by State

based on information in State Wetland Protection...State Profiles, 2008 by Environmental Law Institute

	Ohio	Kentucky	Indiana
Antidegradation rules for wetlands	Oh adopted wetland anti-degrad rule (2003) - "require that the wetland designated use be maintained & protected in order to prevent loss of wetland acreage or functions" - identify a range of functions to be protected - wetlands are regulated according to category - incl provisions for mitig	Ky has not adopted wetland-specific anti-degrad policy, but water quality standards applicable to all surface waters are also applicable to wetlands	Ind has no anti-degrad standards specific to wetlands
State Mitigation Processes			
Provisions for compensatory mitigation	<ul style="list-style-type: none"> •State reg.s specifically address wetland mitig for each of the 3 categories of Isolated Wetlands, w dif provisions for alternatives analysis, mitig ratios, mitig locations... •Stream mitig provisions not yet specified but mitig protocol doc dev.ed •Mitig is required by rule for impacts to non-isolated wetlands (OAC 3745-54) & by statute for isolated wetlands (ORC 6111.02) per www.aswm.org/swp/oh9.pdf •no in-lieu-fee program per www.aswm.org/swp/oh9.pdf 	<ul style="list-style-type: none"> •State statute allows KDFWR to contract w others for CompMitig projects • KDFWR administers <u>Ky Stream & Wetland Mitig Trust Fund</u> for "restoring... wetlands or streams..." (focus is on streams) - Fund receives in-lieu-mitig fees from Corps permittees 	<ul style="list-style-type: none"> •State code w required standards & ratios for CompMitig (goal of IDEM wetland permit program to ensure that comp mitig offsets loss of isolated wetlands allowed by permitting program) - IDEM policy docs for determining when CompMitig is compl & meets success criteria - also, CompMitig required for wetland & stream impacts assoc.ed w permitting activities under FCA
Provisions to establish mitigation banks	<ul style="list-style-type: none"> • Banks identified as option in state rules (where acceptable by OEPA) - laws outline banking req.s by wetland category (set a preferred order for mitig alternatives for 3rd/highest quality category) • Provisions for isolated wetlands w list of approved mitig banking sites • 12 mitig banks in OH & all privately owned (yr?) per www.aswm.org/swp/oh9.pdf 	<ul style="list-style-type: none"> •State statute allows KDFWR to establ & operate wetland or stream mitig banks (& also in-lieu-fee programs) 	<ul style="list-style-type: none"> •<i>Under Ind Interagency Coord Agreement on Wetland Mitig Banking</i>, fed agencies, IDEM, & IDNR participate on mitig banking review team •Authorized 1 wetland mitig bank (Lake Station...)
Dev of mitig guidelines for wetlands	<i>Ohio Wetland Restoration and Mitig Strategy Blueprint</i> (1999) by OEPA & ODNR lays out model for identifying high priority areas for protection, restoration, & mitig and a strategy for implem of a state wetland mitig banking policy & state restoration goals	<ul style="list-style-type: none"> •<i>Wetland Compensatory Mitig & Monitoring Plan Guidelines for Ky</i>, 1993, by fed agencies & KDOW & KDFWR to assist applicants w creation of mitig & monitoring plan for projects requiring 404 permit & 401 certif - •No specific wetland mitig goals •KDOW also dev.ed stream mitig guidelines 	IDNR began drafting mitig guidelines in 2006

Mitigation Processes for Wetlands by State

based on information in State Wetland Protection...State Profiles, 2008 by Environmental Law Institute

	Ohio	Kentucky	Indiana
Tracking of mitigation (for identifying mitigation sites in the OKI region & for state tracking losses & gains)	<ul style="list-style-type: none"> •OEPA DSW dev.ing SWIMS to incl tracking for mitig action... •Integrated Wetland Assessment Program by DSW for standardized mitig wetland monitoring (req monitoring of mitig sites for 5 yr min) •OEPA has database to track mitig losses & gains related to the permitting process ... Status & Trends Report prepared annually for wetland impacts & mitig acreage & incl Isolated, 401 wq certifs, & NWP projects (2004, OEPA Div of Surface Water) •OEPA tracks gains (thru mitig) & losses of wetlands thru Section 401 certif & isolated wetlands permitting programs per www.aswm.org/swp/oh9.pdf 	Ky Dept for Environment Prot w limited info (may be of int)	<ul style="list-style-type: none"> •IDEM does not have a formal system for tracking permits or mitig but uses spreadsheets (for compliance deadlines) & <i>Unity</i> database for permitting docs ... •IDEM monitors wetland mitig projects for 3 yrs
<i>Provisions for determining acreage required for mitigation</i>	<ul style="list-style-type: none"> •State reg.s establ ratios by category of wetland, whether mitig is on- or off-site, whether wetlands is forested or non-forested •"Wetland losses must be miimized & replaced by at least a 1:1 ratio. Higher quality wetlands or wetlands that are more difficult to replace have replacement ratios of 1.5:1 or 2:1. The intent is to maintain wetland acreage of similar or better quality, not to increase wetland acreage in the state." per www.aswm.org/swp/oh9.pdf 2000 public / ratios may be higher now 		IDEM has MOU w NRCS to determine acreage of mitig required (& methodology used to assess wetlands)
<i>Provisions for determining where mitig is to occur</i>	<ul style="list-style-type: none"> •State reg.s w specific provisions for linear projects/highways in wetlands that allow mitig to occur outside the watershed (depend on OEPA) •Mitig Banking Revw Team (MBRT) incl OEPA, ODNR, & fed agencies •see cell/info for Guidelines •An MOU between ODOT & OEPA deals w permit review for ODOT projects 	<ul style="list-style-type: none"> •Mitig Rvw Team (for in-lieu-fee mitig in conj w Stream & Mitig Trust Fund) incl fed agencies, KDFWR, & KDOW •KDFRW working w TNC to identify priority wetland systems for restoration (to focus fed \$ to priority sites) •MRT to discuss new KDOT mitig projects w in-lieu-fee agrements (KDOT, KDOW, KDFWR, fed agencies) 	

Appendix H

Notes from State-Agency Mitigation Consultations, Phase 1

Session 1: Ohio Department of Natural Resources (ODNR), Division of Natural Areas and Preserves (Scenic Rivers Services Group and Natural Heritage Database Group) and Division of Wildlife

We have just a couple of questions related to environmental mitigation. We'd like to discuss the mitigation strategies that could potentially maintain or restore environmental functions affected by the transportation plan, but first we need a better understanding of current mitigation activities.

16. Would you know where the state has already made investments to restore environmental resources or functions in the OKI Region? ... where restoration has already occurred?

Bank stabilization along LMR in Anderson Twp (have info in newsp article / park site), Lake Isabella, Milford (2 sites)

Money that has been spent for land acquisition (for ODNR properties & by LMI, Inc) is money spent for mitigation of human impacts

Because money has been spent for protection/preservation, the resource has a higher priority ... money spent raises the bar for the LMR because additional money capitalizes on / optimizes the investment

- *in State Preserves?*
- *in State Wildlife Areas?*
- *as habitat for Endangered, Threatened, and Rare Species?*
- *in the Little Miami River corridor?*
- *to improve aquatic habitat in the Great and Little Miami Rivers?*
- *to wetlands?*

17. Has your agency identified resources or areas in our region that need restoration?

ODNR is more focused on protection than restoration. **If request is for a target for mitigation funds, look at acquisition of corridor for protection instead of site for restoration.**

Would there be any list of restoration needs?

Information is **more focused on the need for protection or preservation than on restoration**

Do you have suggestions on the best use of restoration funds in our region if they were available?

For mitigation, is it better to fund restoration on 1 mile of stream where there are no adverse effects to date, or use the money in the LMR corridor to **expand on investments already made??**

In addition, responses to questions not focused on mitigation...

In fact, opinion is that **area needs to be acquired that is to be protected**. Acquire through federal, state, NPOs, etc. If try to protect or preserve wetland or other area, owner of habitat sees it as "taking my land out of development," so ultimately, need to acquire. Example of designation of Little Miami River as Scenic River, but ODNR & NPOs still try to acquire forestland (300' from river).

As get further into process of building Redbank Connector, need **to mitigate for secondary/development impacts**. What is a sufficient level of mitigation for the Redbank Road project? To get ODNR approval, the bridge approach must be above the 100-year floodplain and the bridge span out of the channel. What is the full scope of secondary impacts from new roadway frontage? **How to mitigate for asphalt = secondary impacts?** New roads facilitate development that corresponds to **secondary impacts = impacts that are not fully taken into account**. **Planning organizations are to look at impacts before development of an area and put protective provisions in place.**

Note: *Raises importance of strategy of providing information and facilitating conservation by owners who want their property conserved for the future or who would do so with a modest incentive.*

11. Is your agency involved with ODOT's environmental assessment of transportation projects (Project Development Process)?

ODOT projects are routed through ODNR for review / a process is in place to determine who gets the information for review

Session 2: Kentucky State Nature Preserves Commission, Kentucky Department of Fish and Wildlife Resources (includes staff involved in mitigation and in NEPA review and comment), and Kentucky Division of Water

NOTE: Staff most knowledgeable about mitigation had to leave the meeting before discussion began on that topic: KDFWR staff involved in mitigation and staff with KDOW

16. Would you know where the state has already made investments to restore environmental resources or functions in the OKI region? ... where restoration has already occurred?

- *in State Preserves?*

Adair Wildlife WMA – restored a channelized stream section

- *in State Wildlife Areas?*

Big Bone Creek in state park (200' of bank stabilization, 24 acres riparian forestation)

- *as habitat for Endangered, Threatened, and Rare Species?*

- *for the Licking River or other stream corridors? (Banklick)*

- *to wetlands?*

17. Has your agency identified resources or areas in our region that need restoration?

Would your agency have any list of restoration needs?

Like to see projects that would affect Gunpowder Creek, and the Licking River

KSNPC has proposed developing a State Preserves list *to provide restoration - there is a need for preserves to protect natural communities in Gunpowder Creek watershed*

We saw that the Dept. of Fish and Wildlife Resources was working with The Nature Conservancy to identify priority wetland systems for restoration. Is that work in progress or is it finished?

For info about status or info on a list of priority wetlands for restoration, check with local office of The Nature Conservancy 859-259-9655 – *references to EFF (?) and 15 acres in Ky* - NOTE: no info about this work on Ky TNC website but did verify phone number – defer further research

Would any wetlands in our region be listed as priority sites?

Do you have suggestions on the best use of restoration funds in our region if funds were available?

18. The Kentucky Transportation Cabinet has a mitigation process that is cited as Exemplary by the Federal Highway Administration. It involves the U.S. Fish and Wildlife Service in identifying potential mitigation sites.

A. Are any of your agencies involved in the Transportation Cabinet's mitigation process?

KDFWR suggest contacting 502-695-0468, *Phil D'armo* NOTE: check website for contact info if relevant to obtain additional info

B. Do you have any comments on how sites selected for mitigation might fit with your agency's conservation priorities?

Sometimes KSNPC is asked for potential sites for restoration/mitigation in a particular watershed

19. As we understand it, the state has a Mitigation Fund financed by in-lieu-mitigation fees paid to the U.S. Army Corps of Engineers. The Fund supports stream and wetland mitigation in Louisville and Northern Kentucky in addition to the Kentucky Wetland and Stream Restoration Program that operates statewide.

Is the Kentucky Wetland and Stream Restoration Program relevant for our planning area, or would mitigation always occur through the Northern Kentucky University's Center for Applied Ecology (Stream Corridor Restoration Fund)?

Was thought that mitigation for N Ky is through the NKU Center, but that MRT provides approval (=consistent with available info). The NKU Center has asked the KSNPC for information on potential sites for restoration/mitigation.

Reference to projects being submitted and selected based on a "scorecard". I have notes about his scorecard elsewhere – would it be valuable to have or do you know what it is already?

20. Some of you are familiar with the Northern Kentucky University's Center for Applied Ecology (Stream Corridor Restoration Fund).

A. Would you know if its work related to the state Mitigation Fund takes place only in the three counties in OKI's planning area?

B. Would funds for the Center's mitigation projects be limited to the in-lieu-fees collected in those counties?

C. Do you know if the Center could be involved in mitigation for transportation projects, or if site selection and mitigation work always occur through the process established by the Transportation Cabinet?

D. Would you know if the Center has a list of potential mitigation projects -- or priority needs for restoration?

21. How are your agencies involved in decisions about where and how mitigation occurs in the three Northern Kentucky counties?

What on your thoughts on the use of funds for restoration vs. preservation or acquisition?

Depends on the sites and the species, but get better value/more for the money from preservation. Restoration is more costly and does not necessarily work. There is not much money available for protection, but a lot of money is available to restore/re-create. Example of bottomland forests are being logged (money to re-create forests but not to preserve?). There is money to improve, not prevent (geared to historic impacts from agriculture). There is money to fix existing problems; the bad actors get the money to fix (the farmer with cows in the stream), but there's no money to help those who do the right thing (to make problem-prevention more affordable).

For mitigation project, can spend 10% on acquisition. Concept of "no net loss" not well funded. Corps is signing off to degrade areas and restore elsewhere, but value of restored area is not the same as

intact system that is destroyed. 1:1 restoration ratio where need a 10:1 ratio. Program based on short-term spending rather than long-term.

Restoration works better for birds than for less mobile species (can't move from one site to another).

Would you have records of conservation easements established in our region?

Easements related to farm bill programs are not public information, especially since passage of the most recent Farm Bill, even with Public Records request. But could get info at local level, from Court House.

...

In addition, responses to questions not focused on mitigation...

Check with Mike Hardin for reference to a mitigation bank in Campbell County along Wolf Road (lower Licking River... *may be in 14-digit watershed for mussels?*)

Cheaper to conserve area before a species is listed (reference to text on map) – (but) the transportation review process is not interested in candidate species

Session 3. Indiana Department of Natural Resources: Division of Nature Preserves, Division of Fish and Wildlife (Wildlife Diversity Section and the Environmental Unit: Environmental Supervisor and Environmental Biologist)

Note: The Division of Fish and Wildlife issues permits for floodway construction (reviews projects to be constructed in the floodways and issues permits if needed). Field reviews are conducted by one of four biologists.

16. In Dearborn County, we have mentioned the *Lawrenceburg Conservancy District Mitigation Conservation Easement*, which we presume was established to compensate for wetlands lost to casino development in the late 1990s. Would you have any comments on this mitigation project? *How many acres of development were offset? Has it been successful?*

Could get information if a permit was involved. Mitigation sites are in the Managed Lands database if the state owns the mitigation site.

Would you know if there is just this one mitigation site in connection with the Argosy casino, or are there more?

Check local sources, and see response below

Would you know of other mitigation sites in Dearborn County ... or how we could identify them?

There are mitigation sites for a flyash site, a boat ramp mitigation site, US 50 bridge expansion. PC brought maps of *mitigation sites that need to be reviewed and compared with inhouse data*. Check with Randy Turner, Denny C, PC. Check with IDEM about mitigation sites for wetlands and restoration [3 maps: when focus on mitigation, may want to contact PC and discuss: what sites are being mitigated? (maps are for mitigation of Fly Ash Site, Boat Ramp, & US 50 Bridge expansion but not clear which mitig sites match w which projects ... some mitig sites appear to be same as those referenced in OKI info re SR48 extension ... need contact info/full names for staff referenced for info on mitig and restoration sites]

Do you know where we could find records of conservation easements in Dearborn County?

17. Does your agency have any list of potential mitigation sites in Dearborn County, or sites that need restoration?

Generally, the mitigation site is on the same stream or in close proximity to the project site, but it would be better if the mitigation site were close to DNR property. Early coordination in selecting

mitigation sites would be helpful. JB referred to ratio variations with types of mitigation sites. [have info on mitig ratios]

18. How are decisions made for where mitigation occurs / for the locations of mitigation projects?
There is a website for Volunteer Mitigation Sites / sites can be proposed by individuals...

The project sponsor/consultant looks for mitigation sites. The main DFW criteria for coordination is under DFW regulatory authority (Flood Control Act, which applies to any stream with a drainage area of 1 square mile or more, with the result that mitigation does not occur for projects on headwater streams.)

19. For transportation projects, are your agencies involved in proposing or selecting environmental mitigation sites?

We are trying.

Do you know if INDOT is working to create mitigation banks for transportation projects?

(2008 source: considering creation of 2 banks)

PC: Banks are a requirement of the Corps.

Any comments on environmental mitigation banking?

They are a mixed bag. What's good is that they provide for larger areas of habitat. But they transfer mitigation of the impact on one place to a different place. Not happy about moving the impact, but how good is a 2-acre postage stamp site surrounded by agricultural lands? Conceptually, banks could be good.

Kentucky's Transportation Cabinet has an environmental mitigation process that involves the U.S. Fish and Wildlife Service in identifying potential mitigation sites. The program is cited as Exemplary on the FHWA's website. Are you familiar with this program?

USFWS may be involved in a project on I-69 because of impacts to habitat for the Indiana bat.

20. We also know that Kentucky has an Environmental Mitigation Fund for stream and wetland restoration projects, and it's funded with in-lieu-mitigation fees paid to the Corps. Do you have any comments on the pros or cons of in-lieu fee mitigation? *Indiana does not have an in-lieu fee mitigation program and the fees are discouraged*

In-lieu fee mitigation is more complicated. The fear is that the money would pile up. Have an old MOU with INDOT: if can't mitigate at recommended ratios, then fee is collected at \$1500 per acre and paid to DFW. Director of Water Enforcement Section has the money and no one is willing to spend it. Our fear is that a dedicated fund would not be used or would be diverted.

21. Do Indiana wetland mitigation projects ever involve preservation of existing wetlands?

Very rarely; preservation can be part of a mitigation project. Process is one of nickel-and -dime quality wetlands and then mitigate with piecemeal wetlands.

What on your thoughts on restoration projects vs. preservation or acquisition?

The jury is out on how well we can recreate wetlands, so we should hang on to what we have. Small restorations are worthless. DNP definitely prefers preservation. *One option would be for DNR to purchase existing wetlands.*

22. What is the status of guidelines for mitigation of stream impacts?

In process.

Does mitigation occur for impacts on urban forests or removal of trees?

Yes if they are in the floodway. For other projects/if not in the floodway, DFW recommends mitigation if coordination occurs early on.

In addition, responses to questions not focused on mitigation...

If a project has impacts on the floodway, mitigation is required. Because of floodway impacts, mitigation sites are along Tanners Creek.

Currently have a permit controversial to Oxbow, Inc., for its potential effect on drainage / changes the flow of water to the Oxbow. The state just issued a permit for a culvert to the Oxbow.

Wildlife is lost by road kills, and it's also lost as a result of jersey barriers and interstates as barriers. Wildlife passageways help. For new transportation projects, underpasses and overpasses can provide connectivity and/or wildlife access. It's important to bridge the entire floodplain, not just the floodway (I-69 extension is for bridging the floodway/floodplain). Interchanges have big impacts. There are options for keeping pollution out of aquatic systems.

CH: For something as big as the Oxbow, need for the conservation investment to keep going, in spite of the development context, which is a challenge. For indirect impacts, management is an issue that is not about roads but about secondary impacts.

KS: The potential to recreate the Oxbow is virtually nonexistent (= need to conserve it).

INDOT has a copy of the Natural Heritage Database and also contacts the Data Manager, so there are two levels of environmental review, one by INDOT and one by Fish and Wildlife. DFW also reviews projects with floodway and stream crossings. The timing of Fish and Wildlife's review frequently does not honor SAFETEA-LU language concerning early coordination and review. Usually, most of the design work (40-80%) is done prior to DFW review, so the project is already far along. (*Change in design in early phase comes from state budget / in late phase from federal budget??*) INDOT has a central and district office, and the district offices are fairly autonomous. DFW deals with different departments; relationships have improved over the years.

"It's cheaper to avoid an impact than to mitigate for it."

Session 4: Indiana Department of Environmental Management, Office of Water Quality

Jason Randolph and David Carr are both 401 Project Managers that coordinate reviews for INDOT projects, as described for Q#11 in Comparison/Part 2. IDEM has five Project Managers: two are dedicated to INDOT and three work for the rest of the state. IDEM has fewer environmental staff than INDOT 's Office of Environmental Services (OES under Michelle ___).

16. In Dearborn County, we have mentioned the *Lawrenceburg Conservancy District Mitigation Conservation Easement*, which we think was established to compensate for wetlands lost to casino development in the late 1990s. Would you have any comments on this mitigation project? *How many acres of development were offset? Has it been successful?*

Did not discuss, but a reference was made to Argosy's doing an archaeological dig prior to construction.

NOTE: Email Q: Do you know how mitigation occurred for the Argosy casino (new or improved wetlands? one or more mitigation projects? Has mitigation been successful?) and the extent of Lawrenceburg Conservancy District mitigation conservation easements (shapefiles? number of sites

and acreage? status), or where we could obtain information? (how many acres of development were offset? if mitigation involved new or existing wetlands?)

Would you know if there is just this one mitigation site in connection with the Argosy casino, or are there more?

See above

Would you know of other mitigation sites in Dearborn County ... or how we could identify them?

Did not discuss. Email could include Q

Do you know where we could find records of conservation easements in Dearborn County?

Did not discuss. Email could include Q

17. Does your agency have any list of potential mitigation sites in Dearborn County, or sites that need restoration?

No/see below

18. How are decisions made for where mitigation occurs / for the locations of mitigation projects?

There is a website for Volunteer Mitigation Sites / sites can be proposed by individuals...

IDNR identifies the areas for compensatory mitigation (for INDOT projects) and manages the mitigation sites (IDNR is a land-holding agency). IDNR has identified areas they would like to use for mitigation sites, but anyone can get on the list the agency uses (e.g., farmers with a site too wet to be farmed may want site to revert to wetland). (See website for Voluntary Mitigation Sites).

19. For transportation projects, are your agencies involved in proposing or selecting mitigation sites?

No/see above

Do you know if INDOT is working to create mitigation banks for transportation projects?

(2008 source: considering creation of 2 banks)

Did not discuss. Defer the question

Any comments on mitigation banking?

Did not discuss. Defer the question.

Kentucky's Transportation Cabinet has a mitigation process that involves the U.S. Fish and Wildlife Service in identifying potential mitigation sites. The program is cited as Exemplary on the FHWA's website. Are you familiar with this program?

Did not discuss. Defer the question.

20. We also know that Kentucky has a Mitigation Fund for stream and wetland restoration projects, and its funded with in-lieu-mitigation fees paid to the Corps. Do you have any comments on the pros or cons of in-lieu fee mitigation? *Indiana does not have an in-lieu fee mitigation program and the fees are discouraged*

Did not discuss. Defer the question

21. Do Indiana wetland mitigation projects ever involve preservation of existing wetlands?

Did not discuss. Defer the question (online discussion indicates that this occurs only in conjunction with wetlands creation or improvements)

What on your thoughts on restoration projects vs. preservation or acquisition?

Did not discuss. Defer the question.

22. What is the status of guidelines for mitigation of stream impacts?

LR may have mentioned that this is in process; information is available online; defer the question

Does mitigation occur for impacts on urban forests or removal of trees?

Did not discuss. Defer the question.

In addition, responses to questions not focused on mitigation...

Dearborn County has a lot of archaeological sites along the Ohio and lower Great Miami Rivers [not clear if sites are also along the Whitewater River and other stream corridors]. Many of these same areas have Indiana bat summer habitat. USFWS is a resource for bat summer habitat and ETR species. The Argosy site had an archaeological dig prior to construction [may have also been a dig for the straightening of SR 48].

At an earlier point in the discussion, it was noted that IDEM does not use IDNR data but does coordinate with IDNR. IDEM involves IDNR in the evaluation of all permit applications. IDEM staff copy IDNR staff and take account of information such as spawning locations and timing, bat habitat, ETR species, etc. The agencies also meet monthly [the same or different meeting from INDOT meeting mentioned for Q#11 in Part 2].

6. Do you have any comments on how the combination of transportation projects may affect the identified Environmental Resources?

There are so few identified resources that it's hard to say. The problems from transportation projects in this kind of topography are related to erosion, sedimentation, and stormwater. The runoff fills up the headwaters with sediment and then moves downstream.

The Ohio River backs up into all the tributaries [stormwater impact]. Wal-mart involved a relocation of Wilson Creek because of impacts on the floodplain.

Session 5: Ohio EPA Division of Surface Water (include Manager for 401 Water Quality Certification and Wetland Section)

These last questions are for beginning a discussion of potential mitigation strategies that are – as described in the regulations -- “regional in scope” ... and that may involve policies, programs, or strategies – or areas to carry them out -- that have the greatest potential to restore and maintain the environmental functions affected by the transportation plan. The environmental functions affected by the transportation plan are related to the area served by the existing transportation system and recommended projects. We welcome your comments and ideas *on the potential for mitigation to better address conservation needs.*

I want to mention that we are impressed by Ohio EPA's development of wetland categories, mitigation ratios, ORAM, the wetland IBI, and other efforts to maintain high-quality resources. You are the experts, and we want your comments and ideas.

16. As an example of a potential mitigation strategy for consideration, the Kentucky Transportation Cabinet has a mitigation process that's considered by the Federal Highway Administration as “Exemplary” (2005). The Cabinet has delegated mitigation site selection to the U.S. Fish and Wildlife Service, which identifies sites for habitat restoration for species at-risk. Mitigation projects support species recovery as well as wetland or riparian functions. This strategy is cited as having “the greatest potential” to yield conservation benefits. Have you heard of this process?

No / this is news

Note: Website with FHWA summary was included in follow-up email to Randy Bournique (responded “thank-you”) and Ric Queen.

Any comments on the feasibility of a similar process for Ohio?

We have a summary from FHWA's website – **HANDOUT**.

17. Another Kentucky mitigation strategy for consideration allows applicants for 404 permits to pay a fee to the Army Corps of Engineers instead of implementing a mitigation project. The fees collected in OKI's Kentucky counties go to a fund that pays for stream and restoration projects in those counties. It pays the Center for Applied Ecology at Northern Kentucky University to identify and assess local opportunities for stream and wetland restoration and also to implement restoration projects, as approved by the Corps and an interagency review team.

Any comments on this process?

Are in-lieu-mitigation fees used in Ohio?

They're not used. There were a couple of projects that involved in-lieu-mitigation fees, but they're not encouraged because of a lack of.... ODOT was interested in the development of in-lieu-fee mitigation... worked with the Corps but could not settle on a process....

Is the use of in-lieu-fee mitigation determined by states or by District offices of the Army Corps of Engineers?

New federal rules take into account in-lieu fee programs; the **rules came out in 2008**.

(In Indiana, fees are discouraged; the state does not have an in-lieu-fee mitigation program, and IDEM staff had reservations about establishing a mitigation fund.)

If Ohio has in-lieu fee mitigation

What happens after fees are collected? How are they used?

Any comments on the potential for in-lieu-mitigation fees to create a fund for financing mitigation projects?

18. The Louisville District of the Army Corps of Engineers has jurisdiction in part of our region, but ODOT's Waterways Permit Manual identifies the Huntington District as having jurisdiction over the Great and Little Miami River watersheds. Can you clarify this for us? *(maybe applies just for mitigation of transportation projects)*

Ohio Regulatory Transportation Office /ORTO is a field office for the Huntington Corps District... works exclusively on 404 permits and jurisdictional determinations for all ODOT projects regardless of Corps district boundaries

The Louisville District does regulatory work just along the Ohio River (Huntington District covers the rest of our region). ODOT works only with the Huntington District.

If the Louisville District has jurisdiction ...

Are there differences between these Districts in their approaches or processes for mitigation?

...in the use of mitigation banks?

... in the use of in-lieu mitigation fees?

19. The members of the Ohio Mitigation Banking Review Team (MBRT) are the Ohio EPA, ODNR, the Army Corps of Engineers, U.S. EPA, U.S. Fish and Wildlife Service, and NRCS (USDA Natural Resources Conservation Service. Is that right?

Yes

The Corps is the team leader and the final authority in the drafting of the MBRT agreement, required for all projects.

How are Ohio EPA and ODNR represented ... by what department or division?

MBRT is now called the IRT (Interagency Review Team). There is one vote per agency, but OEPA usually has 2 representatives. ODNR is represented by Brian Mench and sometimes by Becky Jenkins from Division of Wildlife.

If relevant: Is the Corps represented by a member of each District, or is there just one representative?

Your Division has evaluated wetland mitigation banks. What are your comments on mitigation banks as a strategy to restore and maintain high-quality resources?

From a regulatory perspective, they're essential. There are a lot of applications for small projects, and size makes their success questionable, monitoring difficult, etc. Banks have a high potential for success, but this an evolving process. There were early mistakes, such as inadequate projects, inadequate monitoring, etc. The IRT is now developing a set of guidelines for mitigation banks. There are a number of ongoing reviews related to mitigation banks. It is a formal federal process. Mitigation banks in Ohio are almost exclusively wetland banks, but starting to look at stream mitigation banks.

(My notes have a reference to ODOT's Surface Water Improvement Fund for stormwater infrastructure, which may be a reference to OEPA DSW's Surface Water Improvement Fund:

New Initiative: Successfully established the Surface Water Improvement Fund within the Division of Surface Water. This fund will enable Ohio EPA to make grants to local governments for stream restoration, nonpoint source management and storm water management demonstration projects. The fund holds great promise to become an important and valuable tool in Ohio EPA's Stream Restoration toolbox. Because funding will be obtained from non-federal sources, no local match will be required of projects funded under these grants. We anticipate this program to go online by spring, 2009.)

<http://www.epa.state.oh.us/LinkClick.aspx?fileticket=QBWqaXaV4Ow%3D&tabid=3815>

OEPA studies of mitigation wetlands and banks in 1995, 2001, and 2003-04 confirmed NAS/ National Academy of Sciences? Conclusion: The goal of no net loss of wetlands is not being met for wetland functions by the mitigation program, despite progress in the last 20 years

NOTE: The OKI Region doesn't have any mitigation banks, but projects in the East Fork Watershed can be mitigated by the purchase of credits at the Red Stone Farm Mitigation Bank in the Lower Scioto River Watershed (Pike County; based on information in ODOT's Waterway Permits Manual). The Huntington District is listed for the bank service area, and also for a wetland restoration project in Warren County in the Little Miami watershed (Hisey Park, Ohio Wetland Foundation project) Kentucky's Center for Applied Ecology at NKU is listed as the Long Term Manager for mitigation projects at Ohio's Red Stone Farm Mitigation Bank.

There are potential areas for mitigation banks in the OKI Region / a number of areas that could be considered for preservation, enhancement, invasive species control (as part of banking agreement)...

20. As an alternative to mitigation banks, ODOT has created "Pooled Mitigation Areas" where a stream or wetland mitigation site is developed beyond the needs of a single project, and extra credits are held for future use (*the mitigation site is constructed simultaneously with the project construction*). ODOT also uses Consolidated Sites where several projects are mitigated at the same location. Are you familiar with these approaches?

Waterways Permits Manual: Willow Point Wetland, Coonpath Wetland Mitigation, Dillon Reservoir Wetlands, and St. John's Dam Removal (Sandusky River)

They have worked fairly well. DSW has allowed other entities besides developers to use them. If know in advance that there will be multiple mitigation projects in a certain area, such as projects to mitigate 10,000 feet of steam impacts, then find a site and use it (site is to be larger than impact

area). Cannot sell the credits – site is strictly for their use / the applicant's use = major difference from a mitigation bank

Any comments on their potential to restore and maintain high-quality resources?

(Consolidated banking approach where mitigation for several projects can be performed at a single site without the necessity of going through the lengthy MBRT site-approval process)

(Assume we would need to explore this option with ODOT)

21. Ohio EPA's SWERP Clearinghouse identifies potential mitigation sites listed by individual landowners or agencies. In the four OKI counties, the potential sites are concentrated – 18 of 20 sites are in Clermont Co, and all are in the Little Miami River watershed. How do agencies learn about the SWERP Clearinghouse and the opportunity to submit sites for potential restoration?

The list has evolved. Originally, it was mitigation clearinghouse, and merged to SWERP (Beth Balik). Opportunities to list sites may be mentioned at 319 workshops.

Sept 2009: 2 sites in Warren Co – a few listing agencies/organizations: 4 operate in Clermont Co & 1 operates statewide = 10 Clermont Co. Office of Environmental Quality ... 6 Clermont Co. Storm Water Dept. of the Clermont Co. Water & Sewer Distr. ... 1 Clermont Co. Park District ... 2 Little Miami, Inc. ... 1 Ohio Wetlands Foundation

Do you know of any other list of potential mitigation sites?

Don't know of any other, and that's why OEPA established this list....

Do you know of any state lists of restoration needs?

The "Ohio Wetland Restoration and Mitigation Strategy Blueprint, 1999" gives priority to Great Lakes coastal counties for wetland restoration, but that's more relevant for ODNR restoration work than for mitigation projects

Not aware of any.

22. Does your Division help ODOT identify potential mitigation sites?

"They pretty much do their own work."

Does ODOT use the SWERP Clearinghouse?

How does ODOT identify potential sites for mitigation?

23. We'd like to discuss acquisition as a mitigation strategy. As we understand it, acquisition can only be used for wetland mitigation where Category 3 wetlands are involved, and in conjunction with wetland restoration or creation, and by decision of the Director (*rate of 2 acres for every remaining acre of the compensatory wetland requirement*). Is that the case?

That's the process in state rules.

Are acquisitions limited for wetland mitigation by national policy, or is it up to each state?

Some sites in the SWERP Clearinghouse are listed as mitigation opportunity to preserve a stream segment (*specific #feet per stream*). Can stream preservation involve land acquisition?

_____ For us, preservation is legal insurance that the area (the site used for project mitigation) will not be developed, like a conservation easement.

We've been told that it's cheaper to preserve than to restore. Can environmental mitigation be used to preserve resources that are not impaired?

Appropriate/possible. We have not gone that route because of the lack of an in-lieu-fee program. Without a final in-lieu-fee mitigation document, the Corps has no legal _____. We try to be as specific as possible when issue a certificate. If 1500' is impacted, *we* work with the organization = the state wants to know how the area is to be preserved.

24. In early 2009, rules were proposed for protecting isolated streams by establishing a state water quality permit. What is the current status of those rules?

It's all wrapped up in the mitigation rule package. There is no deadline for submission of comments.
...

Stream mitigation may include bank stabilization, using biotechnical erosion control techniques, riparian corridor protection or establishment, in-stream habitat enhancement, or re-establishment of flood plain areas

Stream Mitigation rule will be part of the Water Quality Standards chapter but closely related to the Section 401 Water Quality Certification package (OAC 3745-32): it will be used primarily to limit physical impact to water bodies (e.g., construction, placing fill, grading, dredging, relocating ditches and diverting streams).

25. We'd like to discuss your thoughts on potential mitigation strategies and areas, but we've already taken a lot of your time. So we'd like to open this now to your questions and comments....

In addition, responses to questions not focused on mitigation...

State-listed species are considered in the permitting process; the Director has the authority to consider effects on state-listed species.