Ohio EPA Wetland Program Plan 2011-2015

Ohio EPA's wetland program has been developing over the past two decades. Ohio has taken an integrated approach to development and implementation of the major parts of the program. The goal has been to develop the tools to conduct predictable and consistent application reviews while assuring that we are providing the appropriate level of protection to the resources under review. The key parts of the program include section 401 WQC and Isolated Wetland Permit reviews, wetland water quality standards, and monitoring tools (including a rapid assessment method and biological indices) developed using data from a large set of Ohio's natural wetlands.

Details on our wetland program plan are addressed with respect to the US EPA "Core Elements of an Effective State and Tribal Wetlands Program Framework."

MONITORING & ASSESSMENT

Ohio has a highly evolved level of wetland monitoring and assessment that has been integrated into the core elements of the wetland program. The need to place wetlands into categories for antidegradation reviews has driven the process. We have monitored a large set of Ohio's natural wetlands, from all ecoregions, which represent the entire range of human disturbance conditions from least impacted to severely degraded. We have also monitored and assessed a large number of permittee responsible wetland mitigation projects as well as many of Ohio's wetland mitigation banks. From our data on natural wetlands we have developed a dependable rapid assessment method that can be used in most instances to place a wetland, proposed for impacts, into the appropriate antidegradation category. We have also developed wetland IBIs (vegetation and amphibians) and biogeochemical values that allow us to more accurately assess the condition of natural wetlands and serve as performance standards for mitigation wetlands. We plan to use these indices to set the bar for tiered aquatic life uses in a future rule making. We also plan to keep working on refining the tools we have and developing new ways to evaluate wetlands both individually and on a watershed basis. These new tools and modifications to existing ones will allow us to better document wetland condition and also make assessments for large populations of wetlands when level 3 and even level 2 tools may not be practical.

- ***National Wetland Condition Assessment (NWCA) participation.*** (2011-2013)
  - Conduct field surveys and submit data for random selection of wetlands to be included in the NWCA. (2011).
  - Conduct field surveys for NWCA intensification grant (WET0). (2011-2013).
  - Generate report card of wetland condition and wetland categories in Ohio based on findings from the NWCA intensification grant. (2014)
- ***Development of wetland database using Microsoft Access. This database would house all past and future WEG (ORAM, AmphIBI, and VIBI) monitoring events. Currently, these data are stored in separate Excel***

spreadsheets, making further investigations using these extremely detailed datasets quite onerous. The new database would provide valuable information regarding the structure and function of natural wetlands in Ohio and allow 401 Coordinators to make more informed permit decisions. Consolidating all assessment data into a single repository would also make it much easier for wetland scientists in other agencies or academic institutions to use this information for additional research studies. (2011-2013)

- Consolidate all wetland data collected during past monitoring events, including:
  - Site description information;
  - Vegetation Index of Biotic Integrity (VIBI) data;
  - Amphibian Index of Biotic Integrity (AmphIBI) data;
  - Ohio Rapid Assessment Method for Wetlands (ORAM) scoring;
  - Wetland Category;
  - Wetland Macroinvertebrate Sampling data;
  - Soil chemistry data;
  - Water chemistry data;
  - Monitoring well data.
- Develop updated VIBI and AmphIBI forms within the database for calculation of metric scores.
- Create a GIS layer of all VIBI and AmphIBI sample locations.

- ***Refine existing and develop new monitoring and assessment tools.*** (2011-2015)
  - Continued development of a level 1 assessment tool for estimating wetland condition based on several landscape-level parameters.
    - Comparison of VIBI plot locations and AmphIBI sample areas to Landscape Development Intensity [LDI] Index values.
    - Additional field testing of model to verify correlation between level 1 tool and more robust level 2 (ORAM) and level 3 (VIBI and AmphIBI) field methods.
    - Explore Ohio Statewide Imagery Program (OSIP) LiDAR elevation data to determine the potential for creating a more detailed wetland boundary layer.
  - Preliminary study of bryophytes as a taxonomic group for potential IBI development;
  - Statistical analysis of additional vegetation metrics derived from presence, cover, and FQAI information collected during prior monitoring events.
  - Refinement of VIBI to allow for more expanded use as a monitoring tool on all aspects of wetland and stream restoration projects. This would allow for the assessment of the variety of plant communities critical to the functioning of restored wetlands, including upland forest, prairie, and riparian areas.
- ***Use of wetland monitoring tools to characterize and protect wetlands on a watershed wide basis.***
  - Continued integration of wetland assessment in the TMDL process (2011-2015)

    - Complete study of Big Run Scioto HUC12 watershed (N134), comparing streamflow and water quality to wetland condition and report on wetland categories. (2012)
    - Complete study of Middle Scioto watershed (N220), integrating wetland assessment into the process of TMDL development and report on wetland condition and wetland categories. (2012)
- ***Establish a network of reference water monitoring stations to record wetland hydroperiods for major HGM classes in each ecoregion of Ohio.*** (2011-2015)
- ***Analyze previously collected wetland macroinvertabrate data to finalize level 2 and level 3 monitoring protocols.*** (2011-2015)

VOLUNTARY RESTORATION & PROTECTION

We will work as partners with other Ohio state agencies,divisions within our agency, and other interested parties to develop a comprehensive program of wetland restoration and protection than can be applied to the entire state. Part of this initiative will be identifying areas of needed wetland protection and restoration and then locating the resources to make them happen. Working with existing grant and loan mechanisms we will prioritize, on a statewide basis, wetlands for acquisition and protection. We will also undertake some projects on our own on a local level to develop templates for larger efforts.

- ***Development of trial wetland restoration project targeting vernal pool habitat.*** (2011-2015)
    - Partner with a Metropark system or other land stewards;
    - Identify specific potential vernal pool restoration sites to be considered;
    - Verify level 1 modeling tool created with US-EPA Wetland Development Grant M928 via field monitoring using level 2 (ORAM) and level 3 (AmphIBI and VIBI) assessment techniques;
    - Prioritize sites based on likelihood of ecological success;
    - Use previously developed vernal pool mitigation projects as models;
    - Procure funding and develop site using techniques that are sustainable and most likely to succeed in the long-term;
    - Monitor annually to document site development and identify any potential problem areas that need to be addressed.
    - Prepare cost benefit analysis to determine economic feasibility of vernal pool restoration as a component of wetland mitigation projects.
- ***Protection and restoration of stream and wetland resources through participation in awarding of Water Resource Restoration Sponsorship Program grants*** http://www.epa.state.oh.us/Default.aspx?tabid=2200 (2011-2015)
- ***Protection and restoration of stream and wetland resources through participation in awarding of CWA Section 319 program grants.*** (2011-2015)
- ***Develop list of potential restoration and protection sites, prioritized, based on landscape-level disturbance, across all HUC12 watersheds in Ohio.*** (2011-2015)

- ***Work with Source Water Protection Staff to determine potential sites for wetland restoration and protection projects located near surface water intakes for active public drinking water systems.*** (2011-2015)

STREAM & WETLAND WATER QUALITY STANDARDS

A key part of our wetland program is the set of rules known as the Wetland Water Quality Standards (WWQSs) [Ohio Administrative Code 3745-1-50 to 3745-1-54] that dictate how all Section 401 water quality certification applications proposing wetland impacts, and some isolated wetland permit applications are reviewed, denied, granted and conditioned. These rulesassign wetlands into three antidegradation categories based on their relative functions, values, ecological condition, sensitivity to disturbance, rarity, and their ability to be replaced via compensatory mitigation. The WWQSs also have narrative criteria for wetland conditions and specify the amount, type and location of wetland mitigation required for granted projects. Ohio also has a strong set of steam water quality standards that have been adopted into rule and include tiered aquatic life uses based on numeric criteria for fish and invertebrates, beneficial uses, narrative criteria, numeric chemical criteria and an antidegradation review process. These rules are used to review proposed stream impacts in Section 401 WQC applications.

- ***Amend the surface water Antidegradation rule to recognize Category 3 wetlands as "Superior High Quality Waters" to allow designation of the best wetlands in the state as "Outstanding State Resource Waters"*** (2011)
- ***Amend wetland water quality standard rules to include numeric tiered aquatic life uses (plants and amphibians) and updated wetland mitigation standards.*** (2012)
- ***Implement the currently public noticed headwater streams water quality standards including antidegradation classes and mitigation standards.*** (2011)
- ***Provide wetland data in the Integrated Reports 305(b) including watershed analysis indicating areas of wetland loss, remaining vital wetlands and potential restoration and protection areas.*** (2011-2015)

REGULATORY ACTIVITIES INCLUDING 401 CERTIFICATION

Ohio EPA reviews a large number of Section 401 WQC and Isolated Wetland Permit applications each year. The regulatory process incorporates all rules that deal with wetland and stream protections including the stream and wetland water quality standards and assures that the antidegradation process is being followed. Monitoring data from the stream and wetland programs is an essential part of the permit review process and allow for a highly sophisticated understanding of the resources involved. Monitoring and assessment data is integrated into the performance standards for any stream or wetland mitigation project resulting from authorized impacts. In this way we can assure that only justified impacts are occurring and that we are receiving adequate compensation for those losses.

- ***Continue review of Section 401 WQC applications using stream and wetland water quality standards and antidegradation rules.*** (2011-2015)

- ***Continue review of Isolated Wetland Permits using wetland and stream water quality standards and antidegradation rules as applicable.*** (2011-2015)
- ***Incorporate new application and review procedures for Section 401 WQC applications identified and developed through the Kaizen process to add efficiency, consistency and continued resource protection.*** (2011)
- ***Development of streamlined VIBI and AmphIBI field manuals to make it simpler for the regulated community to learn and use the procedures*** (2013)
- ***Incorporate advances from wetland and stream monitoring programs to mitigation banking through continued participation on the Interagency Review Team***. (2011-2015)
- ***Continued development and implementation of mitigation standards that specify ratios, type and locations and require quantifiable ecological goals;***
- ***Finalize Guidelines for Wetland Mitigation Banking in Ohio.*** (2011)
- ***Continue monitoring oversight of permittee responsible stream and wetland mitigation projects to satisfy conditions of Section 401WQCs and Isolated Wetland permits.*** (2011-2015)
- ***Pursue enforcement actions for unauthorized dredge and fill activities under Section 404/401 and the Isolated Wetlands Statute.*** (2011-2015)
- ***Work on Natural Resource Damage Assessment projects to restore ecological services to streams and wetlands.*** (2011-2015)
- ***Continue providing technical assistance to Division of Surface Water, other divisions and agencies regarding wetland issues.*** (2011-2015)
- ***Provide annual training on wetland assessment procedures (Ohio Rapid Assessment Method for Wetlands [ORAM], Vegetation Index of Biotic Integrity [VIBI], Amphibian Index of Biotic Integrity [AmphIBI], etc.) to Ohio EPA staff and the general public, including other state and federal agencies and private environmental professionals.*** (2011-2015)
- ***Continue work with the Ohio Vernal Pool Partnership to highlight these islands of biodiversity and advocate for their protection including the distribution of the newly developed "Ohio's Hidden Wonders – A Guide to the Animals and Plants of Vernal Pools"*** (2011-2015)
- ***Create "High Quality Wetland" workgroup made up of Ohio's wetland experts to compile a list of wetlands that will be automatic Category 3 wetlands and receive an extremely high level protection because of their superior ecological condition or rarity. Once developed, this list will be incorporated into the Ohio EPA biennial 305b report to identify these resources as "outstanding state waters."*** (2011-2012)
    - Establish scientifically-defensible criteria to be used for the identification of high quality wetlands;
    - Identify all wetlands meeting criteria for inclusion and updating of the list of High Quality Wetlands, in the Ohio Natural Heritage Database, providing automatic Category 3 designation to those wetlands. Also include those wetlands in the biennial Integrated Water Quality Report.