

# Ohio Environmental Protection Agency Nonpoint Source- Section 319 Program Evaluation Framework

November 15, 2004

## Introduction

An important responsibility for administering the Nonpoint Source (NPS) and Section 319 Program is evaluating and monitoring program effectiveness. Ohio EPA must provide U.S. EPA a comprehensive framework for program evaluation that complies with Section(s) 319(h) 2, 8 and 11, and Section 319(1) of the Clean Water Act. The following framework for program evaluation is designed to enhance existing OEPA efforts and provide improved management of information that will facilitate more effective resource allocation, performance evaluation and general program accountability. USEPA guidance for program evaluation that was released in September 2003 (copy attached) was used throughout the development of this evaluation framework.

## Implementation of the Evaluation Framework

At both the state program and local project level, Ohio EPA may directly measure or require that sub-grantees directly measure administrative, environmental or social indicators. These indicators and the overall design of the monitoring effort are tailored to the particular aspect of the program or project being evaluated.

In order for the necessary program and project level analyses to be possible, Ohio EPA (or partners), will monitor activities at both the statewide and watershed (sub-basin) level. Maximum use of existing local monitoring efforts and Ohio EPA's current Monitoring and Assessment Program will be emphasized. Ohio EPA required increased monitoring and evaluation in Section 319 sub-grants commencing with FFY 2002 projects. Additionally, the Section 319 Program is well integrated with the Ohio EPA's Monitoring and Assessment Program. It is also recognized that program evaluation is a dynamic function and that continuous improvements are likely to be needed and will be implemented as we proceed.

This framework for program evaluation includes various reporting mechanisms designed to collect data and evaluate Section 319 program efforts throughout each year. Reports vary in detail from the comprehensive Ohio Integrated (305/303) Report and the Ohio NPS Annual Report to those that are more localized reporting tools such as local 319 sub-grant project reports. Information will be

managed in existing data bases such as STORET or GRTS whenever possible. New data bases will be developed when the capabilities or applicability of existing systems prove to be ineffective.

Results and conclusions from the evaluation efforts will be transferred and analyzed appropriately for use in continual feedback. Program management will be adaptive in order to apply lessons learned and allow for a continual improvement process. This process will include regular sharing of information and encourage enhanced public and participant feedback at both a statewide and watershed level.

Revised U.S. EPA guidelines for implementing a state evaluation framework call for a three year transition from the current status to full implementation by FFY 2009. An Ohio specific time line is also presented in this document.

Ohio EPA provides public access to all records related to the Section 319 Program and conducts various public meetings and prepares news releases and public notices throughout a given year specific to the Section 319 Program. Ohio EPA recognizes that increasing public awareness is a vital component of the Section 319 Program. An improved public communication plan is also presented as a component of this evaluation framework.

## **Framework Relationship to State Monitoring and Assessment Programs**

Ohio EPA will continue to integrate NPS Program activities with the agency's current statewide Monitoring and Assessment Program, particularly the long-term monitoring plan/TMDL schedule. This will allow continued predictive capabilities to accurately identify the number of watersheds impaired significantly by NPS. This will also facilitate identification of those watersheds that have fully or partially recovered as a result of local preservation and restoration efforts. The Monitoring and Assessment Program will also be used at the sub-basin level to assist with specifically identifying problem areas such as cause and impairment source relationships and/or threats; helping to develop detailed watershed restoration and preservation plans; and, to evaluate local project effectiveness.

## **Credible Data**

During 2003, Governor Taft signed legislation (House Bill 43) requiring Ohio EPA to develop and implement a program for the classification and management of credible data collected by other state agencies and third parties. We are currently developing rules to establish requirements for three levels of data related to

surface water monitoring and assessment. In addition, the rules will address requirements for three levels of qualified data collectors. Following the adoption of rules under the act, the Director must also establish and maintain a computerized database or databases composed of all credible data submitted to Ohio EPA under this program. Ohio EPA anticipates utilizing, with further development, the existing federal data storage and retrieval system that will facilitate ready data access and availability.

Once the program is established through rulemaking and the development of a database to store and retrieve all credible data is complete, Ohio EPA must maintain the following ongoing functions of the credible data program:

1. Certification of Qualified Data Collectors
2. Review and approval of sampling plans submitted to Ohio EPA prior to data collection by Qualified Data Collectors
3. Review of credible data submitted to Ohio EPA
4. Database administration to serve the data and information management needs required in the law.

Upon the promulgation and implementation of credible data rules, all Section 319 Program surface water monitoring will comply with credible data requirements.

Ohio EPA has also submitted a draft Monitoring Strategy that is currently under review with USEPA. This document follows the USEPA Elements of a State Water Monitoring and Assessment Program. All provisions of an approved Ohio strategy will be adhered to as part of the overall Section 319 Program Evaluation.

## **State Level Evaluation**

The following evaluation components combine standard administrative and environmental indicators as well as a new component for evaluating and measuring Section 319 program effectiveness against social indicators. In partnership with USEPA and various stakeholders, social indicators and evaluation methodology will be more fully developed in coming months. Ohio EPA proposes the following time frame(s):

### **1. Assessment of Waters Meeting Standards, NPS impacts, Trends**

*Data/Indicators:* Index of Biological Integrity (IBI); Qualitative Habitat Evaluation Index (QHEI); Invertebrate Community Index (ICI); Headwater Habitat Evaluation Index (HHEI); Water Chemistry; Land Use; Pathogens; and, Percentage of stream miles or HUC 11 watersheds in attainment.

**Methods:** Ohio EPA Field Protocols; Ongoing Consultation with Stakeholders

**Schedule:** See Integrated 305/303 Report, TMDL schedule, TMDL 12 step process

**Data Management:** STORET; Use Attainment Databases

**Analysis:** Use Attainment Analysis; Comparison to Standards; Cause and/or Source Analysis

**Reporting:** Results will be provided within the Integrated 305/303 Report

**Goal:** 80% use attainment in waters evaluated

**Baseline:** 62% in main river stems, 42% in watersheds at HUC11

## 2. Comprehensive Watershed Planning

**Data/Indicators:** Number of Endorsed Watershed Plans and Watershed Plans in progress.

**Methods:** U.S. EPA 319 FFY 2004 Guidance, Ohio Planning Guide

**Schedule:** Available at ODNR-Division of Soil & Water or Ohio EPA

**Data Management:** Ohio EPA and ODNR internal data bases, Watershed Plan Library.

**Analysis:** Comparative Analysis with Federal Guidance, Integrated 305/303 Report , TMDL Reports, and Annual Functional Program Reviews

**Reporting:** Ohio 319 Annual Report; GRTS Regular Updates

**Goal:** To be determined by mid-2005

**Baseline:** 43% surface area coverage, 38 active planning efforts, 5 plans conditionally endorsed

## 3. Endorsed Plan/TMDL Report Implementation

**Data/Indicators:** Number of Projects Funded and Completed

**Methods:** 319 Grant funded projects and programs; USDA Programs Implemented; State Revolving Loan Fund (SRF) Programs; and, other public or private sources

**Schedule:** Individual Plans identify detailed schedules and timelines

**Data Management:** Ohio EPA and ODNR-Division of Soil & Water internal databases

**Analysis:** Annual Review and Evaluation of Funded Projects

**Reporting:** Ohio 319 Annual Report; Applicable GRTS Database & Reports; State Plan Annual Review.

**Goal:** The Percentage of endorsed plans or TMDL reports implemented shall be

determined by no later than 2007.

**Baseline:** To be determined by March 2, 2005.

#### **4. Pollutant Load Reduction, Habitat Restoration, Preservation**

**Data/Indicators:** Nitrogen, Phosphorus, Sediment, Stream miles, Riparian acres, Metals, Acidity, QHEI, HHEI, flow measures.

**Methods:** 319, USDA Programs; State Revolving Loan Fund (SRF) Programs; Other public or private sources

**Schedule:** See individual plans for detailed schedules

**Data Management:** Ohio EPA and ODNR internal databases

**Analysis:** Annual review of funded projects, GRTS

**Reporting:** Ohio 319 Annual Report, GRTS, State Plan annual review

**Goal:** To be Determined in conjunction with stakeholders associated with State NPS Plan Revision - FFY 2005

**Baseline:** To be refined by mid-FFY05; also see FFY 2003 Ohio NPS Annual Report for partial list (Nitrogen, Phosphorus, and Sediment – Section 319 projects only)

#### **5. Long-term Reliability of 319 Funded Practices**

**Data/Indicators:** Physical Status; Maintenance History; Design Life

**Methods:** Field inspection at 25 random sites annually

**Schedule:** Random Inspections to be conducted annually

**Data Management:** Ohio EPA and ODNR internal databases

**Analysis:** Review of completed field inspection reports

**Reporting:** Ohio NPS Annual Report

**Goal:** 100% of annually inspected units are installed and functioning properly

**Baseline:** 95%

#### **6. Social Indices**

**Data/Indicators:** Data to measure social indices are currently under development and consideration.

**Methods:** Methodology for measuring social effectiveness of Section 319 Program efforts is currently under development and consideration.

**Schedule:** Once fully implemented, social indices will be evaluated annually; however, commencement date is under consideration but full implementation

will occur no later than 2007.

**Data Management:** Ohio EPA and ODNR internal databases

**Analysis:** Method(s) of analysis are currently under consideration.

**Reporting:** Segments of Ohio's NPS Annual Report will focus on an evaluation of social indices tied to 319 programming once such indices are fully developed and implemented.

**Goal:** Ohio's goals for social indices shall be developed and implemented no later than 2007.

**Baseline:** Baseline social indices shall be identified no later than 2007.

## **Watershed/Project Evaluation**

The following evaluation components combine typical administrative and environmental indicators. The sixth component is designed to address a new approach to social indicators. The social component will take some time to develop properly with the assistance of U.S. EPA and stakeholders. Ohio EPA respectfully requests the time frame presented in this section and below in the overall Schedule for the Evaluation Framework for development.

### **1. TMDL Development by HUC 11**

**Data/Indicators:** Index of Biological Integrity (IBI); Qualitative Habitat Evaluation Index (QHEI); Invertebrate Community Index (ICI); Headwater Habitat Evaluation Index (HHEI); Water Chemistry; Land Use; and Pathogens.

**Methods:** Ohio EPA Field Protocols; Consultation with Stakeholders; Watershed Group Reports.

**Schedule:** See Integrated 305/303 Report, TMDL schedule, TMDL 12 step process

**Data Management:** STORET, use attainment analyses

**Analysis:** Use attainment analysis, comparison to standards, cause/source

**Reporting:** Integrated 305/303 Report and individual TMDL reports

**Goal:**  $\geq 80\%$  use attainment in waters evaluated

**Baseline:** Baselines are watershed specific

### **2. TMDL Watershed Verification by HUC11 or HUC14**

**Data/Indicators** Index of Biological Integrity (IBI); Qualitative Habitat Evaluation Index (QHEI); Invertebrate Community Index (ICI); Headwater Habitat Evaluation

Index (HHEI); Land Use; Riparian Acres preserved; Load Reductions.

**Methods:** Ohio EPA Field Protocols; Consultation with Stakeholders; Watershed Group Reports.

**Schedule:** See Integrated 305/303 Report , TMDL schedule, TMDL 12 step process; no verification studies scheduled at this time since no TMDL efforts currently have reached step 12.

**Data Management:** STORET, Use Attainment Databases

**Analysis:** Use Attainment Analysis; Comparison to Standards; Cause/Source

**Reporting:** Integrated 305/303 Report, Watershed Group Reports

**Goal:**  $\geq 80\%$  use attainment in waters evaluated

**Baseline:** Baselines are watershed specific

### 3. Volunteer Monitoring in Watersheds

**Data/Indicators:** Index of Biological Integrity (IBI); Qualitative Habitat Evaluation Index (QHEI); Invertebrate Community Index (ICI); Headwater Habitat Evaluation Index (HHEI); Land Use; Riparian Acres preserved; Load Reductions; and Flow (May use all or part of these indicators depending upon project activity).

**Methods:** Ohio EPA Field Protocols; Consultation with Stakeholders; USEPA QAPP Guidance.

**Schedule:** FFY 2003/2004: Wolf Creek; Leading Creek; Lower Muskingum River; Upper Scioto River; Vermillion River; FFY 2004/2005 Schedule is yet to be **determined**.

**Data Management:** STORET; Local Watershed Groups; Section 319 Program Files; and GRTS

**Analysis:** Comparison to Standards; Historical Data Comparison

**Reporting:** Watershed Group Reports; Ohio NPS Annual Report; Section 319 Program Semi-Annual and Final Technical Reports

**Goal:** Watershed Specific

**Baseline:** Watershed Specific

### 4. 319 Sub-grant Project Minimum Evaluations

**Data/Indicators:** Index of Biological Integrity (IBI); Qualitative Habitat Evaluation Index (QHEI); Invertebrate Community Index (ICI); Headwater Habitat Evaluation Index (HHEI); Land Use; Riparian Acres preserved; Load Reductions; and Flow (May use all or part of these indicators depending upon project activity).

**Methods:** Ohio EPA field protocols, consultation with stakeholders, U.S. EPA

QAPP guidance and Evaluation Framework Guidance

**Schedule:** By 319 grant cycle with on-going projects; 7 projects in FFY 2002, 5 projects in FFY 2003, 8 projects in FFY 2004 (pending approval by U.S. EPA/R5)

**Data Management:** STORET; Local Watershed Groups; Section 319 Program Files; GRTS

**Analysis:** Comparison to Standards; Analysis of Historical Data; TMDL Recommendations and Predictions; and Endorsed Watershed Plan Recommendations and Predictions

**Reporting:** Watershed Group Reports; Ohio NPS Annual Report; Section 319 Program Semi-Annual and Final Technical Reports

**Goal:** Watershed or Project Specific

**Baseline:** Watershed or Project Specific

## 5. Intensive 319 Implementation Project Evaluation

**Data/Indicators:** Index of Biological Integrity (IBI); Qualitative Habitat Evaluation Index (QHEI); Invertebrate Community Index (ICI); Headwater Habitat Evaluation Index (HHEI); Land Use; Riparian Acres preserved; Load Reductions; and Flow (May use all or part of these indicators depending upon project activity).

**Methods:** Ohio EPA Field Protocols; Consultation with Stakeholders; USEPA QAPP guidance; and Evaluation Framework Guidance

**Schedule:** Projects Evaluated by 319 grant cycle with on-going projects; 1 project in FFY 2001 (Powderlick Run natural channel restoration), 1 project in FFY 2002 (Middle Cuyahoga River dam removal); Project from FFY 2003 Cycle to be determined; Projects from FFY 2004 to be determined. The current selection and design process has been based primarily on resource availability; proximity to Ohio EPA field offices; and the TMDL process. We continue to explore alternatives that will improve evaluation of Section 319 grant funded projects.

**Data Management:** STORET; Local Watershed Groups; Section 319 Program Files; GRTS

**Analysis:** Comparison to Standards; Analysis of Historical Data; TMDL Recommendations and Predictions; and Endorsed Watershed Plan Recommendations and Predictions

**Reporting:** Watershed Group Reports; Ohio NPS Annual Report; Section 319 Program Semi-Annual and Final Technical Reports

**Goal:** Watershed or Project Specific

**Baseline:** Watershed or Project Specific

## 6. Social Indices

**Data/Indicators:** Data to measure social indices are currently under development and consideration.

**Methods:** Methodology for measuring social effectiveness of Section 319 Program efforts is currently under development and consideration.

**Schedule:** Once fully implemented, social indices will be evaluated annually; however, commencement date is under consideration but full implementation will occur no later than 2007.

**Data Management:** Ohio EPA and ODNR internal databases

**Analysis:** Method(s) of analysis are currently under consideration.

**Reporting:** Segments of Ohio's NPS Annual Report will focus on an evaluation of social indices tied to 319 programming once such indices are fully developed and implemented. Additionally, Watershed group reports and locally submitted 319 semi-annual and final technical reports will be used.

**Goal:** Ohio's goals for social indices shall be developed and implemented no later than 2007.

**Baseline:** Baseline social indices shall be identified no later than 2007.

## Feedback Opportunities and Venues

Ohio EPA is committed to encouraging appropriate feedback, employing adaptive management and maintaining a continuous improvement process for evaluating Section 319 programming on both the state and local (project) levels. There are a variety of venues where such feedback is solicited, analyzed and transmitted to appropriate parties. Below is a list of several such venues:

### 1. Statewide Venues

- Annual stakeholder meeting for NPS Plan Revisions and Reporting
- Annual meeting by the Section 319 State Advisory Committee
- Annual meeting of Watershed Planning Advisory Group
- Annual Ohio Watershed Leaders Conference
- Statewide Watershed Coordinator Training Events
- Statewide Training Events for State Section 319 Program Staff
- Annual U.S. EPA National and Regional meetings
- Other venues as opportunity provides

## 2. Watershed Venues

- Annual training workshops for Section 319 Program Participants
- Annual Watershed Coordinator Functional Reviews
- Annual 319 sub-grantee Technical Site Reviews
- Annual Section 319 Program Participant Grant Compliance Meetings
- TMDL team meetings (10 to 20 per year)
- Other venues as opportunity provides

## Public Communication Plan

Ohio EPA (and its core partners) recognizes the vital need to communicate program results and conclusions to the public, to program participations and to other interested parties. We anticipate making several important changes in the coming years regarding how program performance will be reported generally. Results of implementing this Evaluation Framework will be summarized in the Ohio NPS Annual Report and parts of the biannual Integrated 305/303 Report. We anticipate making revisions to the Ohio NPS Annual Report that not only meet USEPA reporting requirements, but also will allow the document to become more effective for communicating program activities with the public, state legislature, Ohio EPA staff and management and our important programming partners. The NPS Annual Report will be prepared and submitted timely to USEPA as well as the public at large by September 30 of each year. Completion and release of this report shall coincide with a public notice to the general population requesting comment. The report will also be posted on Ohio EPA's web site. The Integrated 305/303 Report due to U.S. EPA by April 1 of even numbered years will also be accompanied by a public notice and comment period.

Additional information will be available to the public at all times via GRTS and STORET databases, file reviews, consultation with staff, the Ohio watershed list server (email) and in newer databases developed as a result of implementing the Evaluation Framework as well as the Credible Data Law.

## Schedule for Implementing Evaluation Framework

Below is the proposed draft schedule for implementing the Evaluation Framework.

### FFY 2005:

- Resubmit Evaluation Framework to U.S. EPA and Ohio EPA management by November 30.

- Use Framework on FFY 2005 319 projects and program activities where applicable
- Submit preliminary results with Ohio NPS Annual Report by September 30

**FFY 2006:**

- Review feedback from USEPA, OEPA Internal Staff, ODNR, OSUE, Local Program Participants and other Stakeholders by December 31.
- Incorporate comments and revisions into Framework by January 31
- Apply new framework to FFY 2006 projects and program activities
- Report Framework results in Ohio NPS Annual Report by September 30 and, where applicable, in the Integrated 305/303 Report by April 1

**FFY 2007-9:**

- Repeat FFY 2006 process