A Pilot: Voluntary Integrated Reporting Subcategory 5R
for Waterbodies with Implementable Water Quality Restoration Activities
EPA Region 4

1. Introduction

This document provides information to States on a pilot approach for voluntarily listing impaired waterbodies within subcategory 5R (R for Restoration) on their Clean Water Act (CWA) Section 303(d) and Section 305(b) Integrated Reports. The 5R subcategory acknowledges that many State Total Maximum Daily Load (TMDL) Programs face significant resource limitations that may hamper the development of implementable TMDLs, which may delay water quality restoration. Thus, the 5R subcategory provides States with flexibility in how they apply their limited resources to achieve water quality standards. Region 4 is offering the 5R approach to States as a 6-year pilot where they partner with stakeholders to implement water quality restoration activities prior to TMDL development. States that participate in the 5R approach may defer TMDL development for those waterbodies and pollutants while they remain on the Section 303(d) list. However, if the water quality restoration activities do not result in significant water quality improvements or attain their applicable water quality standards by the end of the pilot, the waterbody may be removed from the 5R subcategory and reprioritized for TMDL development.

2. Background

The CWA employs a variety of regulatory and nonregulatory tools that are designed to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. One of the tools employed under the CWA is the development of TMDLs for impaired waterbodies. A TMDL allocates a waterbody's pollutant loading capacity to point sources through wasteload allocations (WLA) and nonpoint sources through load allocations (LA). While TMDL implementation plans are not required under the CWA, National Pollutant Discharge Elimination System (NPDES) permits must be consistent with the assumptions and requirements of an established WLA. The nonpoint source LA may be implemented through a wide variety of state, local and federal programs (which may be regulatory, non-regulatory or incentive-based, depending on the program), as well as, voluntary action by citizens.

As of August 2011, over 44,000 TMDLs have been established throughout the Nation. However, the National Water Quality Inventory to Congress for the 2004 Reporting Cycle reported that 44% of assessed stream miles, 64% of assessed lake acres and 30% of assessed bay and estuarine square miles remain impaired. It is challenging to determine the rate at which TMDLs are resulting in water quality improvements or restoration without a national mechanism to track TMDL implementation. To better understand TMDL implementation, EPA's *TMDL Program Results Analysis Project* conducted a sample-based analysis of TMDL implementation rates and characteristics in the six EPA Region 5 states (IL, IN, MI, MN, OH and WI).[1] The analysis demonstrated that an estimated 80% of the TMDLs established in Region 5 were at least partially implemented; however, full implementation was uncommon. The analysis concluded that point source or mixed TMDLs (point and nonpoint sources) had higher implementation rates than nonpoint source-only TMDLs. The difference in implementation rates can most likely be

[1] The Final Report for the Analysis of TMDL Implementation Rates in Region 5, December 1, 2009, can be viewed at the following website: www.epa.gov/owow/tmdl/results/pdf/analysis_of_tmdl_ implementation_ rates.pdf.

attributed to the mandatory nature of point source controls versus the voluntary nature of nonpoint source controls, and also from the difficulty in managing nonpoint sources, which are often more diffuse and difficult to measure.

While point source pollution is continuing to be addressed through the appropriate regulatory controls, EPA recognizes that in order to effectively address today's sources of environmental pollution, environmental protection must evolve from compartmentalized, command-and-control operations and incorporate more holistic and collaborative approaches with adaptive management techniques. With today's increased environmental awareness, stakeholders are collaborating and driving holistic, watershed approaches which often yield more enduring, sustainable solutions that address a broader range of environmental issues. NPDES permitted facilities are looking beyond their minimum environmental requirements for additional opportunities to prevent pollution and improve efficiency. These collaborative approaches should complement and enhance EPA's existing statutory programs to achieve efficient and effective environmental results. Consistent with this philosophy, EPA is continuing to expand its current set of water quality restoration tools to emphasize local level restoration efforts. As such, the voluntary 5R subcategory for listing impaired waterbodies on State CWA Section 303(d) and Section 305(b) Integrated Reports was created.

3. Overview of the 5R Subcategory and Approach

The voluntary 5R subcategory provides EPA with a mechanism to acknowledge States who engage local stakeholders in the watershed restoration process in advance of TMDL development. The 5R approach embraces local watershed restoration efforts by allowing public and private stakeholders to drive the watershed restoration process. Stakeholders are familiar with issues in their local watershed and offer valuable insights to ensure the success of certain pollutant reduction activities. EPA recommends that stakeholders, in conjunction with their State, prepare a watershed plan that includes a broad scope of water quality restoration activities that, when implemented, can improve water quality without the need of a TMDL. The watershed plan should follow a continuous adaptive management approach allowing modifications to occur over time as additional monitoring data becomes available. While the watershed plan is based on the best available data and information, it may be revised to include additional data or data based on better analytical techniques that would likely increase the accuracy of its pollutant load reductions. These revisions should ensure that the most practicable water quality restoration activities are implemented to achieve water quality standards. The specific elements recommended for the watershed plan are discussed in Section 5.

The duration of the 5R pilot is 6-years and it is expected that significant water quality improvements or applicable water quality standards should be achieved by the end of the pilot. However, Region 4 understands that significant time to effectively improve water quality for certain pollutants and watersheds is required. The 5R approach may be appropriate for watersheds with impairments due to point and nonpoint sources, as well as, pollution (hydrologic modifications, etc). In general, the watershed approach is needed in situations where the influence of the adjacent land use drives the impairment of water quality. In watersheds with excess impervious surfaces or impairments due to sediment, nutrients or pathogens, the watershed approach is the only demonstrated feasible solution to restoration. In watersheds with substantial hydrologic modification or imperviousness, remedies need to be applied throughout the watershed to mitigate the impacts of altered hydrology. Under such circumstances, engaged local governments and stakeholders drive restoration. When determining whether the 5R

approach is the most appropriate method for restoring an impaired waterbody, States may consider the following factors:

- the level of community support/interest and the capacity of stakeholders to manage water quality;
- the ability of the pollutant to be reduced through a watershed approach;
- the length of time the waterbody has been on the 303(d) list;
- the time necessary to implement the watershed restoration plan, and
- the presence of a TMDL development schedule identified in a consent decree, settlement agreement or Memorandum of Agreement.

Where agreements drive the TMDL development schedules, deferring TMDL development under the 5R approach may or may not be possible or appropriate. Watersheds impaired due to point source discharges only may not be suitable candidates for the 5R approach. However, in the case of point source discharges of treated wastewater or regulated stormwater, a stakeholder driven process would increase the chances of funding, implementation and water quality improvements.

EPA does not expect the watershed restoration plan to be fully implemented or water quality standards to be attained before placing impaired waterbodies in the 5R subcategory. However, it is expected that the State will provide sufficient documentation to support their decision to list impaired waterbodies within subcategory 5R.

4. Relationship of 5R Subcategory to Current Integrated Reporting Guidance

As described in EPA's *Guidance for 2006 Assessment, Listing, and Reporting Requirements Pursuant to Sections 303(d), 305(b), and 314 of the Clean Water Act* [2006 Integrated Reporting Guidance (IRG)], category 5 is for waters where available data indicates at least one designated use is not being achieved or is threatened, and thus a TMDL is needed; this category also constitutes a State's Section 303(d) list. States have the option of placing impaired waterbodies requiring TMDLs in either the general category 5, the Nationally-defined subcategory 5m (for mercury impaired waterbodies), or a State-defined subcategory within category 5. National policy states that the schedule for establishing TMDLs for category 5 waterbodies should generally be 8 to 13 years from the original date the waterbody was included on the 303(d) list. However, as specified in the EPA Memo: *Listing Waters Impaired by Atmospheric Mercury Under Clean Water Act Section 303(d): Voluntary Subcategory 5m for States with Comprehensive Mercury Reduction Programs* dated March 8, 2007, States may defer TMDL development beyond this recommended schedule when specified requirements for listing waterbodies within the 5m subcategory are met (i.e. continues to carry out a comprehensive mercury reduction program and demonstrates further progress in reducing mercury releases from in-state mercury sources).

Since the 5R approach is being offered to Region 4 States as a 6-year pilot, it may not be necessary to delay TMDL development for impaired waters beyond the generally recommended 8 to 13 year timeframe. However, the 5R subcategory allows impaired waters to remain on the Section 303(d) list while delaying TMDL development beyond the generally recommended 8 to 13 year timeframe. It is appropriate to delay the TMDL development process where implementation of water quality restoration activities is ongoing, sufficient progress toward

achieving water quality restoration has been documented and restoration will occur within the scheduled timeframe. By delaying the TMDL development process, the water quality restoration activities are given the opportunity to make sufficient progress towards attaining water quality standards. The 5R subcategory does not remove the obligation to develop the TMDL if the water quality restoration activities do not ultimately result in attainment of the water quality standard. Nor does the 5R option preclude States from continuing to develop TMDLs. It does not imply that the impaired waterbodies in subcategory 5R are a lower environmental priority or that action to reduce impairments has been delayed. It is EPA's intent to assist States in prioritizing all of their water quality restoration activities so that timely environmental results can be achieved.

EPA's IRG also describes a subcategory that is referred to as 4b, which acknowledges that water quality restoration can be achieved through controls developed and implemented without TMDLs. States can remove impaired waterbodies from the Section 303(d) list if they provide a rationale to demonstrate that "[o]ther pollution control requirements (e.g., best management practices) required by local, State or Federal authority" are stringent enough to implement applicable water quality standards (see 40 CFR 130.7(b)(1)) within a reasonable period of time. As opposed to a 4b, EPA does not expect the 5R approach to include a set of pollution controls that are, in fact, "requirements" as specified in EPA's regulations. Therefore, waterbodies placed in subcategory 5R remain on the Section 303(d) list, which maintains an accurate account of the State's impaired waterbodies. However, if a State can demonstrate that the restoration activities included in the 5R approach are consistent with EPA's guidance on category 4b, then those waterbodies may be suitable candidates for 4b.

5. Documentation for Subcategory 5R

Under the subcategory 5R approach, States should provide a watershed plan to support their conclusion that water quality restoration activities are expected to result in water quality improvements and, ultimately, restoration. The level of documentation necessary to support listing an impaired waterbody in subcategory 5R is more robust than that necessary to support a TMDL. However, since the 5R approach recognizes watershed plans, the amount of unique documentation necessary to support a 5R listing should be minimal. Thus, EPA does not necessarily expect the State to develop unique documentation for the purposes of using subcategory 5R. For example, States may choose to use a plan with the "Nine Minimum Elements" as required by CWA Section 319 Plans to justify a use of the 5R approach (these elements are included as Appendix C). However, EPA specifically recommends that the 5R documentation describe the following six minimum elements:

a) *The identification of the point and nonpoint sources.* For point sources, an analysis should be included to document whether they are causing or contributing to the water quality impairments. If it is determined that the point sources are causing or contributing, then a Water Quality Based Effluent Limitation (WQBEL) should be developed and implemented through NPDES permits.

b) *The point source and nonpoint source water quality restoration activities that are expected to result in water quality improvements and restoration.* Where applicable, describe any authorities that may require water quality controls to be implemented (e.g., state or local regulations, permits, contracts and grant/funding agreements).

c) *Cost estimates and funding commitments to implement the water quality restoration activities.* In order to provide assurance that water quality restoration can occur through the implementation of water quality restoration activities, States should provide cost estimates and secured funding sources that will be used to implement these activities.

d) *An anticipated schedule for implementing the water quality restoration activities, including the anticipated completion date and the estimated pollutant load reductions necessary to meet water quality standards.* The schedule should outline specific activities and include a timeline of when each phase will be implemented and accomplished. The schedule can be revised and updated at each 303(d) listing cycle.

e) *A water quality monitoring component to evaluate and track the effectiveness of the scheduled water quality restoration activities at each 303(d) listing cycle.* Baseline water quality conditions should be established in order to accurately measure water quality progress. At each 2-year 303(d) listing cycle, performance measurements, whether environmental, programmatic, or social, should be provided for each implemented water quality restoration activity to measure progress. It is understood that each water restoration activity may not result in improved water quality; however the combined restoration activities should result in improved water quality at each 303(d) listing cycle[2].

f) *An anticipated date for achieving water quality standards.* Projects are expected to follow adaptive management allowing critical milestones to be adjusted as project plans and goals may change as implementation occurs. Once water quality standards have been met, the State may determine that the waterbody is appropriate to be included in category 1 or 2. If the project does not meet water quality standards by the estimated completion date, sufficient trends toward improved water quality must be shown in order to continue in the 5R program and an updated implementation schedule including revised critical milestones should be submitted to EPA. The project will continue to be reviewed every 2-year 303(d) listing cycle until water quality standards are met.

6. State Reporting and EPA Review

States who anticipate applying the 5R approach should notify the Region during the beginning of each fiscal year (October) for planning purposes. States may provide the 5R documentation at any time throughout the year; however, States should include the 5R supporting documentation with its Section 303(d) list/Integrated Report submittal. The 5R supporting documentation should be made available during public review of the draft Section 303(d) list/Integrated Report. The checklist for States to use when reporting the elements of a 5R approach is included in Appendix A. The tables for States to use when evaluating and tracking the implementation and progress of each water quality restoration activity are included in Appendix B and C. EPA will not take action to approve or disapprove the State's 5R documentation; rather, EPA will review the recommended elements included in the 5R documentation to determine whether it is appropriate to place such waterbodies in subcategory 5R on the State's Section 303(d) List. If a State places waterbodies in subcategory 5R on their Section 303(d) List without having the recommended elements of a 5R, EPA may recommend placing those waterbodies within the general category 5, rather than in subcategory 5R, and reprioritize them for TMDL development.

EPA Regional programs consisting of TMDL, Watershed, Monitoring, NPDES, and Nonpoint Source Coordinators will formally review the 5R supporting documentation and evaluate water quality progress every two years during its Section 303(d) list/Integrated Report review. During

this review, the coordinators will assess the State's progress in implementing the watershed restoration activities as well as the trends in water quality to determine whether it is still appropriate for the waterbody to continue to be listed in subcategory 5R and defer TMDL development. States may delay TMDL development beyond the generally recommended 8 to 13 year timeframe where implementation of water quality restoration activities is ongoing, sufficient progress toward achieving water quality restoration has been documented and restoration is expected to occur within a scheduled timeframe. If a State is making inadequate progress towards achieving its water quality goals and targets (i.e., funding has been lost, or not put towards implementation activities, etc.), EPA may recommend placing the waterbody in the general category 5, rather than 5R, and reprioritize them for TMDL development.

References

"Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act," United States Environmental Protection. (July 29, 2005)

"Guidance for Water Quality-Based Decision: The TMDL Process," United States Environmental Protection Agency. (April 1991)

Memorandum from Benita Best-Wong, EPA Assessment and Watershed Protection Division Director to EPA Water Division Director Regions I – X. [Clarification Regarding "Phased" Total maximum Daily Loads] (August 2, 2006)

Memorandum from Craig Hooks, EPA Office of Wetlands, Oceans, and Watersheds Director to EPA Regions I-X Water Division Directors. [Listing Waters Impaired by Atmospheric Mercury Under Clean Water Act Section 303(d): Voluntary Subcategory 5m for States with Comprehensive Mercury Reduction Programs] (March 8, 2007)

Memorandum from Geoffrey Grubbs, EPA Assessment and Watershed Protection Division Director to EPA Water Division Director Regions I-X. [Final Rules for Implementing Clean Water Act Section 303(d)] (August 12, 1992)

Memorandum from Geoffrey Grubbs, EPA Assessment and Watershed Protection Division Director to EPA Water Division Director Regions I-X. [Supplemental Guidance on Section 303(d) Implementation] (August 13, 1992)

Memorandum from Jay Benforado, EPA National Center for Environmental Innovation Director to EPA Innovation Action Council. *[Evaluation of Community-Based Environmental Protection Projects: Accomplishments and Lessons Learned]* (March 23, 2003)

Memorandum from Robert Perciasepe, Assistant Administrator to Regional Administrators & Regional Water Division Directors [New Policies for Establishing and Implementing Total Maximum Daily Loads] (Aug. 8, 1997)

"Third Party TMDL Development Tool Kit" Water Environment Federation and United States Environmental Protection Agency. (2007)

"Total Maximum Daily Load (TMDL) Implementation Tracking Needs Assessment: Current Status and Future Needs for States in Regions 5, 6, and 10" The Cadmus Group, Inc., CDM, Geosyntec Consultants for U.S. Environmental Protection Agency. (March 2008)

USEPA. 1999. *EPA's Framework for Community-Based Environmental Protection*. Document #EPA 237-K-99-001. Office of Policy (2111), Office of Reinvention (1803), US Environmental Protection Agency, Washington, DC. 40pp.

USEPA. 2002. *Innovating for Better Environmental Results: A Strategy to guide the Next Generation of Innovation at EPA*. Document #EPA 100-R-02-002. US Environmental Protection Agency, Washington, DC. 23pp.

USEPA. 2003. *Evaluation of Community-Based Environmental Protection Projects: Accomplishments and Lessons Learned*. Document #EPA 100-R-02-004. Office of Policy Economics and Innovation (1807T), US Environmental Protection Agency, Washington DC. 3pp.

USEPA. 2008. Handbook for Developing Watershed Plans to Restore and Protect Our Waters. Document #EPA 841-B-08-002. Office of Water, US Environmental Protection Agency, Washington DC. 400pp.

USEPA. 2009. *Analysis of TMDL Implementation Rates in EPA Region 5: Final Report.* Document #EPA841-R-005. Office of Water, US Environmental Protection Agency, Washington DC. 44 pp.

USEPA. 2009. *Fact Sheet: Analysis of TMDL Implementation Rates in EPA Region 5*. Document #EPA 841-F-09-008. Office of Water, US Environmental Protection Agency, Washington DC. 2pp.

USEPA. 2009. *The National Water Quality Inventory: Report to Congress for the 2004 Reporting Cycle- A Profile*. Document #EPA 841-F-08-003, Office of Water, US Environmental Protection Agency, Washington DC. 2pp.

APPENDIX A:

CHECKLIST FOR REPORTING THE RECOMMENDED ELEMENTS OF A 5R APPROACH

Waterbody/Watershed Identification

Organization [(a)]	*Name and type of organization reporting the watershed restoration activities.*
Point of Contact [(b)]	*Name, title, address, telephone number and e-mail address of individual responsible for this report*
Project Title [(c)]	*Short descriptive title, e.g., "Reducing bacterial contamination to Richland Creek in the Pigeon Watershed, North Carolina"*
Waterbody(s)	*List waterbody(s) name(s) here*
Watershed(s) (HUC-12)	*List watershed(s) name(s) here*
Designated Use(s)	*List designated use(s) here*
No. Waterbody / Pollutant Combinations	*Number of waterbody/pollutant combinations addressed through the proposed water quality restoration activities.*
No. Watersheds Improved [(d)]	*Number of watersheds achieving improvement, and associated HUC-12 codes*

Description of Baseline Conditions

Watershed(s) [(e)]	*Enter list of one or more 12-digit HUC watersheds. Note: if 12 digit HUCs are not delineated, describe the regionally-defined watershed(s) of appropriate scale.*		
Impairments [(f)]	*<HUC>*	*<waterbody ID>*	*<impairment cause/pollutant>*
	<HUC>	*<waterbody ID>*	*<impairment cause/pollutant>*
	<HUC>	*<waterbody ID>*	*<impairment cause/pollutant>*
	Additional lines as needed		
Baseline Data	*Provide a quantifiable measure of the existing water quality conditions for the waterbody(s) addressed by the proposed water quality restoration activities. This should include an initial set of observations and current data in order to create a starting point from which progress will be measured.*		
Map [(g)]	*Attach map(s) showing watershed(s) and impaired waterbodies (GIS requested)*		

Evidence of Watershed Approach

Area of Effort [(h)]	*Describe geographic area - may be larger than the watershed(s) with documented improvement*
Key Stakeholders Involved and Their Roles [(i)]	*Identify key partners responsible for planning and implementation. Describe each key partner's role, or cite detailed work plan having this information.*
Watershed Plan & Other Supporting Documentation [(j)]	*Provide a description of, or reference to, a watershed plan that identifies problems and proposes solutions to implement* • *List the Watershed Plan and other Supporting Documentation, with a link to appropriate websites/pages.* • *For other management plans, provide references, links to the document, or indicate that this information has been provided in an attachment.*
Point Sources	*Identify the NPDES Point Sources within the watershed(s) as well as the water quality restoration activities that are expected to achieve water quality standards. Provide WQBEL as an attachment for the wastewater facilities.*
Nonpoint Sources	*Provide a brief description of the Nonpoint Sources within the watershed(s) as well as the water quality restoration activities that are expected to achieve water quality standards.*
Restoration Work[(k)]	*Discuss the proposed water quality restoration activities that are anticipated from these measures. Describe BMPs or other actions taken to improve watershed condition. Should provide a clear, succinct summary in plain language understandable to the general public. Avoid technical terms without a plain language description or definition (or photo) that demonstrates the meaning. A Recommended Implementation Table has been provided to demonstrate the recommended elements for the 5R approach, see Appendix B, "Water Quality Restoration Activities and Implementation Schedule." Other attachments describing restoration activities, reports, or maps are also acceptable. Where applicable, describe any authorities that may require water quality controls to be implemented (e.g., state or local regulations, permits, contracts and grant/funding agreements).*

Critical Milestones/Monitoring

Anticipated Critical Milestone(s):	*Summarize the Critical Milestones which are anticipated to result from the proposed water quality restoration activities every two years. Critical Milestones are quantitative measures of the project's progress (i.e., percentage of planned BMPs installed, improving trends in water quality). Performance indicators, whether environmental, programmatic, or social, should be provided for each Restoration Activity and the estimated progress at each Critical Milestone Date will be defined as the Anticipated Critical Milestone for that year. It is not expected that each restoration activity will yield quantifiable improvements at each two year cycle; however, the overall trend resulting from the combined restoration activities should demonstrate progress towards improving water quality. The final Critical Milestone Date should correspond to the anticipated date for achieving water quality standards. Failure to achieve Critical Milestones may result in waterbody reclassification to general category*

	5. A Critical Milestone's Table with the recommended elements for the 5R approach has been provided; see Appendix C, "Anticipated Critical Milestones and Measures of Progress."
Monitoring Component	*Describe the monitoring that will be done in conjunction with the water quality restoration activities. Is this included in the State's ongoing monitoring effort? Please provide a link or reference to the appropriate website or document that describes the monitoring effort. EPA will review the schedule and success of the restoration activities for the purposes of water classification in the integrated report. It is expected that monitoring data will be available to evaluate progress at the Critical Milestone Dates.*

Key Dates

Critical Milestone Dates	*List Dates (in Years) Here. Critical Milestones Dates should occur every two years and correspond to the 303(d) listing cycles for the duration of the 6-year pilot. EPA will review the progress toward achieving the anticipated Critical Milestones at these dates.*
Estimated Completion Date for the Restoration Activities	*List the anticipated year in which the proposed restoration activities will be implemented.*
Estimated Delisting Date	*List the anticipated integrated report cycle that the waterbodies and impairments identified in this proposal will be delisted because they meet water quality standards.*

Financial Commitments

Estimated Implementation Cost	*Provide an estimated cost to provide assurance that Critical Milestones and delistings can be achieved.*
Funding Sources	*List the sources of funding, including the amounts that have been committed, to implement the proposed restoration activities.*

(a) – (k) Elements corresponding to elements a-k required for the "Reporting Watershed Improvement" (SP-12) Templates. These elements may supply information needed to report improvements which have occurred within the watershed under Measure SP-12; additionally, a section showing evidence of the improvements would be required. See "Guidance on Reporting Watershed Improvement under Measure SP-12" for more complete descriptions of the information requested for SP-12 credit.

APPENDIX B:

IMPLEMENTATION TABLE

Water Quality Restoration Activities and Implementation Schedule
<Submission Title Here>

	Water Quality Restoration Activity	**Anticipated Start Date**	**Anticipated Completion Date**	**Implementation Schedule**
1	*<Briefly describe the Water Quality Restoration Activity>*	*<Date/Year in which the Restoration Activity should Begin>*	*<Date/Year in which the Restoration Activity should be Completed>*	*<Describe the Implementation Schedule for the Restoration Activity>*
2	*E.g. Install 4,500-LF of animal feeding operation fencing*	*2012*	*2014*	*1,500-LF/yr for 3 yrs*
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

APPENDIX C:

CRITICAL MILESTONE'S TABLE

Anticipated Critical Milestones and Measures of Progress
<Submission Title Here>

	Water Quality Restoration Activity	**Indicator to Measure Progress**	**Method to Monitor & Measure Progress**	**Baseline Data**	**Anticipated Critical Milestones *<Year e.g. 2012>***	**Anticipated Critical Milestones *<Year e.g. 2014>***	**Anticipated Critical Milestones, continued***
1	*<Briefly describe the Water Quality Restoration Activity>*	*<Describe the Performance Indicator that will be used to Measure the Progress of the Restoration Activity (e.g. environmental, programmatic, social, etc.)>*	*<Describe the Method that will be used to Monitor & Measure the Progress of the Restoration Activity (e.g. direct water quality measurements, photographs, watershed surveys, program attendance, etc.)>*	*<Provide a quantifiable measure of existing water quality conditions. This should include an initial set of observations and/or data in order to create a starting point from which progress will be measured.>*	*<Describe the Progress of the Restoration Activity that is anticipated to be achieved by this date>*	*<Describe the Progress of the Restoration Activity that is anticipated to be achieved by this date>*	*<Continue inserting columns to describe the anticipated Critical Milestones occurring every 2 years for the duration of the Implementation of the Restoration Activities>*
2	*E.g. Install 4,500-LF of animal feeding operation fencing*	*Length of streams fenced*	*Plans and photos will be collected showing the construction status*	*no fencing installed to date*	*3,000-LF*	*4,500-LF*	*N/A*
3	*E.g. Install 4,500-LF of animal feeding operation fencing*	*Reduced fecal coliform levels at Stations 001 and 003*	*The State plans to collect water quality data at Stations 001 and 003 every 2 years*	*Cumulative rates of fecal coliforms in excess of _____ per 30 days*	_____	_____	*N/A*
4							
5							
6							
7							

***** This table is provided as a guide, States are encouraged to modify the table for their specific circumstances as needed.

APPENDIX D:

"Nine Minimum Elements" of Watershed Plans

A Requirement for CWA Section 319 Funding

1. Identification of causes of impairment and pollutant sources or groups of similar sources that need to be controlled to achieve needed load reductions, and any other goals identified in the watershed plan. Sources that need to be controlled should be identified at the significant subcategory level along with estimates of the extent to which they are present in the watershed (e.g., X number of dairy cattle feedlots needing upgrading, including a rough estimate of the number of cattle per facility; Y acres of row crops needing improved nutrient management or sediment control; or Z linear miles of eroded streambank needing remediation).

2. An estimate of the load reductions expected from management measures.

3. A description of the nonpoint source management measures that will need to be implemented to achieve the estimated load reductions, and a description of the critical areas in which those measures will be needed to implement this plan.

4. Estimate of the amounts of technical and financial assistance needed, associated costs, and/or the sources and authorities that will be relied upon to implement this plan.

5. An information and education component used to enhance public understanding of the project and encourage their early and continued participation in selecting, designing, and implementing the nonpoint source management measures that will be implemented.

6. Schedule for implementing the nonpoint source management measures identified in this plan that is reasonably expeditious.

7. A description of interim measurable milestones for determining whether nonpoint source management measures or other control actions are being implemented.

8. A set of criteria that can be used to determine whether loading reductions are being achieved over time and substantial progress is being made toward attaining water quality standards.

9. A monitoring component to evaluate the effectiveness of the implementation efforts over time, which should be measured against the established criteria.