WORKING DRAFT V5[1]
DWQ Watershed Restoration Process

Outline

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Background

As the Regions and other stakeholders move forward with assisting watershed restoration efforts, many questions arise regarding expectations and timelines. This document intends to answer some of those questions and to serve as a potential catalyst for increased Regional and Central Office interaction to support and nurture restoration efforts. Many watershed efforts have a watershed restoration (or action) plan that has been developed through partnerships among the different stakeholders with responsibilities or interests in the watershed. It is envisioned that the Use Restoration Watershed Coordinator, currently Paul Clark, will work on tracking and assisting efforts. Generally, a watershed restoration effort will not be completed within one year unless it is something as simple as enforcing an existing regulation on the single source of impairment. Please note that the term **watershed** refers to an area about 225 square miles. The DWQ efforts are more typically associated in **subwatersheds** that are about 40 square miles. Thus, although the term **watershed** is used throughout this document, the actual efforts occur in **subwatersheds**.

Goals of this Process

- Protect and enhance water quality
- Provide greater clarity and transparency regarding restoration activities for internal staff and external stakeholders
- Work Smarter – leveraging resources
- Support & encourage local efforts related to restoration
- Participate in restoration efforts in a way that meets or exceeds core responsibilities

Benefits

- Expansion of staff capabilities to meet the Division of Water Quality (the Division) core goal of enhancing water quality where it is adversely affected by pollution.

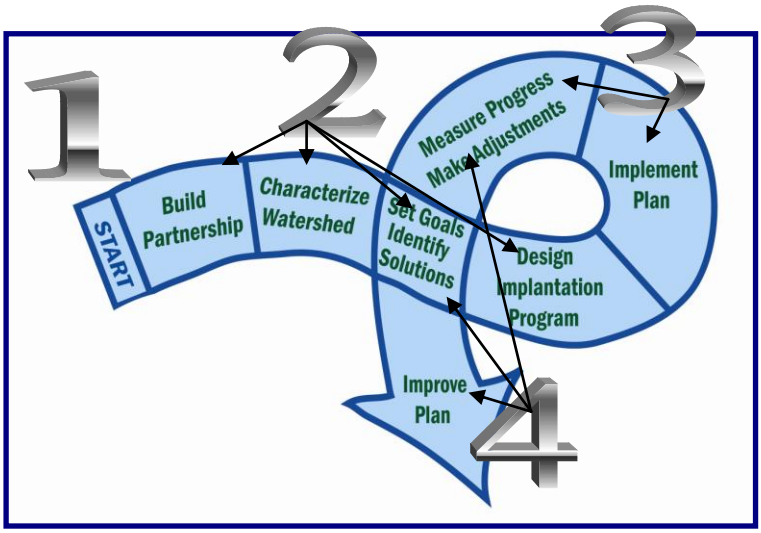
[1] Note that the Watershed Restoration Process is continually updating and expanding therefore this document will remain a working draft intended to support the Division's implementation. Updates are expected to be done annually.

- Promotion and support of restoration initiatives
- Coordination of restoration and protection activities within the Division
- Increasing participation in restoration efforts beyond Division and local stakeholders in cooperation with DENR and other agencies with similar missions and goals. Watershed Restoration Improvement Team (WRIT) is a first step in this effort (WRIT explanation follows Fig 1)
- Improved tracking of watershed plan implementation
- Improved documentation and recognition of restoration efforts
- Assistance in identifying local Champions for restoration efforts
- Support local Champions in formulating and implementing their watershed plans

The Watershed Restoration Process

EPA looks at the Watershed Restoration Process as consisting of four steps and has extensive guidance on maneuvering through those steps. Figure 1 depicts the ideal flow of a restoration process. The first step (#1) requires the Division and/or WRIT to determine the watershed(s) in which to focus efforts. This includes identification of potential local Champion(s) to lead the restoration process, as indicated in Figure 2 where the Champions are at the center of achieving restoration. Attachment 1 provides descriptions of what is meant by Champion and Partner in this context and expands on the roles of each. Attachment 2 provides examples of what to look for in a Champion.

Figure 1. The Watershed Restoration Process[2]



1=Explore
2=Build&Prepare
3=Implement
4=Transition to Maintenance

The Watershed Restoration Improvement Team (WRIT) is a group of several different DENR divisions (including DWQ) and programs that meet regularly to identify how they can better communicate and work together in an effort to further watershed efforts across the state. WRIT plays a key role in watershed efforts by

- Assisting in identifying watersheds on which to focus
- Assisting the Champions and Partners in certain watersheds, and
- Trying to improve the efficiency and effectiveness of watershed efforts that involve several DENR divisions/programs.

[2] per EPA NPS Watershed Handbook - http://www.epa.gov/owow/nps/watershed_handbook/

Once a watershed (or subwatershed) is identified, the process moves into the Build & Prepare mode (#2) where the Division assists the local Champions in taking responsibility for the watershed and implementation of restoration plans. Please note that expertise and experience of Champions differ, so that the Division may join a watershed effort where the Champion already has full responsibility for the watershed process. The Division can assist with identification of other participants, provide available background information related to water quality, and also help set goals and identify solutions.

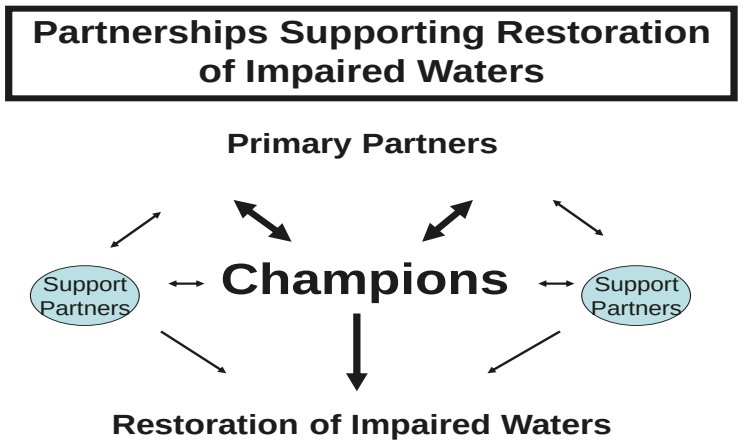
If the local Champions or Region requests, the URW Coordinator and/or Basinwide Planners can take the information being pulled together and help develop the watershed plan. Guidance for developing a watershed plan is available on the Division URW website[3].

Implementation plans should be viewed as living documents; as more is discovered in a watershed, there may be a need to update the information and actions included in the plan. This is demonstrated by the length of time some projects can spend in the Build & Prepare mode (#2).

A watershed effort can be addressed without the support of Champions; however, the results may be lessened, the effort may incur additional staff time, and/or the goals may be lowered. It is NOT recommended to pursue a watershed effort without one or more Champions.

As the effort moves into implementation (#3), the Division's responsibilities may be minimal depending on the restoration actions identified in the restoration plan. It may be important to try to maintain a Division presence at the watershed meetings to keep the process moving and assist with any questions related to State agency activities.

Figure 2. Partnerships Supporting Restoration of Impaired Waters



As the effort proceeds to maintenance (#4), Division involvement is minimal and may be keeping in touch with Champion to get updates and carrying out Division's core responsibilities.

Measures of Success

Determining when to refocus Division resources is a watershed effort specific process. Ultimately, every restoration effort should result in the impaired water body(s) or segment

[3] http://h2o.enr.state.nc.us/nps/URW.htm

meeting water quality standards. However, EPA recognizes other levels of success and the Division can receive credit for those levels.

EPA's measures of success as defined in their Strategic Plan are based on addressing waters listed as impaired on the 2002 303(d) list and are as follows:

- SP-10 – waterbody (segment) identified in 2002 as not attaining standards now meeting standards for entire segment. This measure counts segment(s) and can be achieved through the attainment of applicable water quality standards due to:
    - Restoration activities
    - New monitoring data show water meets water quality standards
    - Change in water quality standards
    - Change in water quality standards assessment methodology
    - Reason for recovery unspecified.
    - Original basis for listing was incorrect.
    - Data and/or information lacking to determine water quality status; original basis for listing was incorrect.
- SP-11 – waterbody (segment) identified in 2002 as not attaining standards now meeting standards for one or more impairments on segment. This measure counts impairments (i.e., turbidity and fecal coliform for one segment). EPA calls this a partial restoration since there may still be impairments in the water body
- SP-12 – improvement in water quality as defined by the following:
    - One or more of the water body/impairment causes identified in 2002 are removed, as reflected in EPA-approved state assessments, for at least 40% of the impaired water bodies or impaired stream miles/lake acres in the watershed; **OR**
    - There is significant watershed-wide improvement, as demonstrated by valid scientific information, in one or more water quality parameters or related indicators associated with the impairments.
    - EPA looks for these 'watershed' improvements at the 12-digit HUC scale which is the **subwatershed** scale that was described earlier in this document.

The distinction between SP-10 and 11 is on what is counted for each measure. SP-10 gives credit for one stream segment when water quality standards are obtained. For SP-11, if a water body is impaired for copper and fecal coliform bacteria and then meets standards for one, that is one credit. SP-12 allows for credit for partial improvements that do not result in a water body being removed from the 303(d) list.

The Division has agreed to achieve and report on one SP-12 measure every year to EPA as part of the CWA Section 106 Water Pollution Control Program Grant. Once a potential SP-12 watershed is identified, the Restoration Watershed Program Coordinator will work with the watershed stakeholders to develop the SP-12 report. Templates for development of a SP-12 report are included as Attachment 3.

It should be noted that without adequate monitoring measuring success is difficult. Monitoring can be conducted by local groups, DWQ (or other agencies) or others in an effort to measure success. Monitoring must also be properly located to accurately document improvements. Watershed monitoring continues to be discussed to identify the optimum scenario for documenting watershed improvements.

Suggested Procedure for Watershed Restoration Process			
#	***Steps – bold indicates Success measure***	***Lead***[4]	***Supporting Members***
1	Inventory - Determine current restoration projects underway including Surface Water (SW) & Aquifer Protection (AP) participation. Provide overview and confirm with SW & AP. Update Annually.	Restoration Watershed Program Coordinator –	Regional & Central Office staff, DENR WRIT agencies.
2	Identify priority subwatersheds for restoration, (see next step for discussion of prioritization). To prioritize, DWQ Surface Water and Aquifer Protection Regional and Central Office staff will work together on a basin (or county) basis. Other agencies and programs may be involved through WRIT.	Restoration Watershed Program Coordinator –	DWQ Regional and Central Office staff, DENR WRIT agencies
2a	**Prioritization includes consideration of the following for each waterbody:** o **Potential or completed studies (i.e., TMDL, WARP, REP, EEP-LWP, etc.).** o **Other agencies are already working there or the water body is high priority for other agencies (i.e. WRIT)** o **Groundwater and/or surface water concerns.** o **Easily identifiable Champion(s).** o **Watershed is small enough to work with logistically (12digit HUC) or fits into a larger or smaller restoration project.** o **Easily addressed problem for a quick start on a project – for example, some Fecal Coliform problems or identified source that can be addressed through normal Division activities**	Restoration Watershed Program Coordinator –	Regional and Central Office staff, DENR WRIT agencies

[4] Lead is defined as the party(s) with the ultimate responsibility for ensuring that the associated step is carried out statewide.

Suggested Procedure for Watershed Restoration Process			
#	***Steps – bold indicates Success measure***	***Lead***[4]	***Supporting Members***
3	**Contact potential Champions to learn interest:** **A. If the Champion is interested, go to #4.** **B. If not, determine if there are other potential Champions in that watershed or encourage existing Champions to accept responsibility (with support from DWQ) and continue to #4. (Don't spend more than a couple of months here.)** C. **If A & B don't work out, then go to next watershed on priority list and start at #3 again**. D. **A Region may proceed without a Champion if they chose to do so. Then their choices are:** a. **Continue to #4 acting as the Champion, (not recommended!) or** b. **If simple situation, develop plan to address problem and proceed. Go to #7.**	Restoration Watershed Program Coordinator, EPA or Regional Division staff	Whoever in the Division knows the person/group best – will vary for each watershed
4	Facilitate meeting between all parties to discuss project including: o Problem(s) o Available information, including DWQ reports on types, locations, and number of permitted facilities and other potential contaminant sources in the watershed, water quality monitoring results, etc. o Need for a Restoration Watershed Plan o Champions – confirm their lead o Additional partners o Funding sources o Complete Preliminary Needs Assessment	Restoration Watershed Program Coordinator, or Regional Division staff	BPU, Regional and Central Office staff (as appropriate), Champion, All stakeholders
5	**Develop watershed plan that includes all elements to allow approval of the Plan for grant purposes.** This may be a phased process with portions of the Plan being further developed as monitoring is completed or other additional information is learned. A timeline is an essential part of this Plan. <u>NOTE</u>: EPA has detailed guidance for these plans.	Champion	Regional and Central Office staff (as appropriate), Primary & Supporting Partners, All stakeholders, Restoration

Suggested Procedure for Watershed Restoration Process			
#	***Steps – bold indicates Success measure***	***Lead[4]***	***Supporting Members***
	Paul has developed simplified guidance for developing these plans (please see website: http://portal.ncdenr.org/web/wq/ps/bpu/urw) has some examples for those interested in writing a plan. Upon request, the Division will assist with writing these plans.		Watershed Program Coordinator
6	Implementation of the Plan o Champions have the main responsibility for coordinating and monitoring implementation. o The Division carries out core responsibilities with emphasis on Restoration Watershed Process area(s). May include focusing activities in the watershed plan area(s).	Champion	Regional and Central Office staff (as appropriate), Partners, All stakeholders, Paul Clark
7	Regular progress updates and communication should occur throughout watershed effort. Direct report to Restoration Watershed Program Coordinator (or basin planner in future) – these go to all stakeholders, partners, etc.	Champion	Paul Clark and/or other Division staff as agreed upon
8	**Track successes on activities in watershed that could impact water quality including improved compliance, increased inspections, BMP installations, etc. Work with PIO to develop and distribute news releases as various activities and phases of a plan are implemented.**	Restoration Watershed Program Coordinator & PIO	Regional and Central Office staff
9	**Determine level of improvement based on EPA SP-10, 11 and 12 and report success level. Examine physical, chemical and/or biological data to verify that restoration was successful. Continue to maintain contact with Champion, perhaps encouraging them to expand to another watershed if impairment is totally removed (SP-10).**	Restoration Watershed Program Coordinator	Division
10	**Go back to 1 on a yearly basis**	Paul Clark	

ATTACHMENT 1. Restoration Watershed Program Participant Descriptions

I. Restoration Watershed Program Coordinators (DWQ-Use Restoration Watershed Coordinator and EPA Watershed Coordinator)

A. Role/definition: EPA and Division staff that acts as liaisons between Champions, Partners, and others to forward watershed restoration. Primary responsibility is to forward restoration in the State.

B. Responsibilities:

1. Communicate regularly with Champions
2. Help Champions identify and meet their needs and goals
3. Assist/facilitate communication between Champions and Partners (when necessary)
4. Broker among partners, agencies, and stakeholders to troubleshoot problems and meet the needs (technical, financial, etc) of champions
5. Assess progress toward meeting needs
6. Help Champions help themselves and revise needs/goals when necessary. Specifically, help with development/expansion of restoration training program(s) through community colleges, universities, cooperative extensions, etc. (i.e. WRRI, WECO, UNC-CH, DWQ draft proposal to develop champion needs assessment and training program).
7. Facilitate DENR Watershed Restoration Improvement Team (WRIT).

More specifically, the Program Coordinators facilitate communication, cooperation, and collaboration among Champions and Partners to empower and assist the Champions in restoring impaired watersheds. They help identify the restoration needs in a watershed and assist with identifying actions to meet those needs. Specifically, these Coordinators develop and provide guidance, provide technical assistance, identify resources to assist funding restoration effort (such as grants and/or low interest loans), help prepare grant applications to secure funding, and help these teams to leverage funds.

II. DWQ Regional Office

A. Role/definition: facilitator between local champions and Restoration Watershed Program Coordinator. Maximize established relationships and potentially identity new working relationships with potential new Champions. .

B. Responsibilities

1. Follow up on compliance concerns raised by local Champions
2. Use Watershed Restoration process as a means to prioritize execution of core responsibilities (inspections, compliance & enforcement, permitting).
3. Provide additional assistance (i.e., monitoring, streamwalking, etc.) to further watershed restoration effort when RO resources allow.

III. Champions

A. Role/definition: Local government, nonprofit, agency, district, etc. that is capable of guiding a watershed restoration effort – They are proactive in taking on the responsibilities listed below; propelling the process into and beyond the maintenance stage.

B. Responsibilities:

1. Identify problems and needs
2. Help develop, implement and facilitate implementation of activities/solutions to problems and restore designated uses to impaired waters
3. Interface/coordinate with many stakeholders in watershed – public outreach, political communication, strategizing, contractor coordination, etc.

IV. Primary Partners

A. Role/definition: Local government, nonprofit, federal or state agency, district, etc. who is willing and able to greatly assist the Champion

B. Responsibilities:

1. Assisting Champion with their responsibilities.
2. Focusing their activities within the watershed to support the Restoration Plan.
3. Communicating Champion needs to others.
4. Assisting Champions with restoration decision making
5. Helping Champions set restoration policy and direction
6. Helping Champions acquire restoration resources. (ex. Dollars and cooperators)

V. Support Partners

A. Role/definition: Local government, nonprofit, federal or state agency, district, etc. who has secondary role in assisting Champion

B. Responsibilities

1. Keeping current on activities in watershed by attending local restoration meetings, visiting watershed group's website, reading newsletter, etc.
2. Focusing their regular activities within the watershed to support the Restoration Plan.
3. Communicating Champion needs to others
4. Looking for opportunities to assist Champions with restoration

ATTACHMENT 2. CHAMPION DESCRIPTION AND EXAMPLES

What to Look for in a Champion … a start … (not prioritized)

- Hard Chargers
- Proactive
- Generalist as opposed to specialist – needs to know something about many different things.
- Able to look at the 'big picture'.
- Good working, trusting relationship with as many stakeholders (including landowners) as possible. Ideally, the champion is local (not an outsider).
- Responsible for getting things done, but remain flexible.
- Does not have to be a visionary. There can be a visionary on team and Champion helps implement the vision.
- Good organization skills or has assistant to fulfill this role.
- Good communication skills. Champions communicate with many different folks.
- Able to secure adequate financial, technical, etc. resources.
- Able to prepare competitive grant applications.
- Able to present in clear, understandable manner.
- Ability to manage contractors or has someone who can manage projects.

Attachment 3. SP-12 Templates

From EPA's Guidance on Reporting Watershed Improvement under Measure SP-12

REPORTING WATERSHED IMPROVEMENT

Based on Impairment Removal (Option 1)

Watershed Identification

a	Organization	*Name and type of organization reporting for the watershed*
b	Point of Contact	*Name, title, address, telephone number and e-mail address of individual responsible for this report*
c	Project Title	*Short descriptive title, e.g., "Reducing bacterial contamination in the Long Creek watershed, Indiana"*

Description of 2002 Baseline Condition

d	Watershed(s)	*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.*
e	2002 Impairments	*Enter HUC, water body ID, and impairment cause*
		Enter HUC, water body ID, and impairment cause
		Enter HUC, water body ID, and impairment cause
		Additional lines as needed
f	Map (optional)	*Attach map(s) showing watershed(s) and impaired water bodies*

Evidence of Watershed Approach

g	Area of Effort	*Describe geographic area - may be larger than the watershed(s) with documented improvement*
h	Stakeholders Involved and Their Roles	*Identify partners responsible for planning and implementation. Describe each partner's role.*
i	Watershed Plan	*Description of, or reference to, a watershed plan that identifies problems and proposes solutions to implement*
j	Restoration Work	*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.*

Evidence of Impairment Removal

k	Impairments Removed	*List water body IDs sufficient to demonstrate that one or more impairment causes identified in 2002 (see "e" above) have been removed from at least 40% of the impaired water bodies or impaired miles/acres in the watershed. Include the date of the state WQ assessment that reported the impairment removal. Include the date of the IR or approved 303(d) list that reflects the removed water bodies.*
l	Photos/Graphics (optional)	*Attach available photos or graphics, with captions, illustrating the local problem or project, and results.*

Refer to "Guidance on Reporting Watershed Improvement under Measure SP-12" for more complete descriptions of information requested in this template.

REPORTING WATERSHED IMPROVEMENT

Based on Statistical Evidence of Watershed-wide Improvement (Option 2a)

Watershed Identification

a	Organization	*Name and type of organization reporting for the watershed*
b	Point of Contact	*Name, title, address, telephone number and e-mail address of individual responsible for this report*
c	Project Title	*Short descriptive title, e.g. "Reducing bacterial contamination in the Long Creek watershed, Indiana"*

Description of 2002 Baseline Condition

d	Watershed(s)	*Enter list of one or more 12-digit HUC watersheds. Note: if 12 digit HUCs are not delineated, describe regionally-defined watershed(s) of appropriate scale.*
e	2002 Impairments	*Enter HUC, water body ID and impairment cause*
		Enter HUC, water body ID and impairment cause
		Enter HUC, water body ID and impairment cause
		Additional lines as needed
f	Map (optional)	*Attach map(s) showing watershed(s) and impaired water bodies*

Evidence of Watershed Approach

g	Area of Effort	*Describe geographic area - may be larger than the watershed(s) with documented improvement*
h	Stakeholders Involved and Their Roles	*Identify partners responsible for planning and implementation. Describe each partner's role.*
i	Watershed Plan	*Description of, or reference to, a watershed plan that identifies problems and proposes solutions to implement*
j	Restoration Work	*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.*

Evidence of Watershed-wide Improvement

k	Impairments Removed (if applicable)	*List water body IDs where one or more impairment causes identified in 2002 have been removed, if any. Include the date of the IR or approved 303(d) list that reflects the removed water bodies.*
l	Statistical Results	*Summarize statistical analysis demonstrating that significant improvement has occurred with a 90 percent or greater level of confidence. See guidance.*
m	Environmental Significance	*Relate statistical results to goals of the watershed plan*
n	Photos/Graphics (optional)	*Attach available photos or graphics, with captions, illustrating the local problem or project, and results.*

Refer to "Guidance on Reporting Watershed Improvement under Measure SP-12" for more complete descriptions of information requested in this template.

REPORTING WATERSHED IMPROVEMENT

Based on Multiple Evidence of Watershed-wide Improvement (Option 2b)

Watershed Identification

a	Organization	*Name and type of organization reporting for the watershed*
b	Point of Contact	*Name, title, address, telephone number and e-mail address of individual responsible for this report*
c	Project Title	*Short descriptive title, e.g. "Reducing bacterial contamination in the Long Creek watershed, Indiana"*

Description of 2002 Baseline Condition

d	Watershed(s)	*Enter list of one or more 12-digit HUC watersheds. Note: if 12 digit HUCs are not delineated, describe regionally-defined watershed(s) of appropriate scale.*
e	2002 Impairments	*Enter HUC, water body ID and impairment cause*
		Enter HUC, water body ID and impairment cause
		Enter HUC, water body ID and impairment cause
		Additional lines as needed
f	Map (optional)	*Attach map(s) showing watershed(s) and impaired water bodies*

Evidence of Watershed Approach

g	Area of Effort	*Describe geographic area - may be larger than the watershed(s) with documented improvement*
h	Stakeholders Involved and Their Roles	*Identify partners responsible for planning and implementation. Describe each partner's role.*
i	Watershed Plan	*Description of, or reference to, a watershed plan that identifies problems and proposes solutions to implement*
j	Restoration Work	*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.*

Evidence of Watershed-wide Improvement

k	Impairments Removed (If applicable)	*List water body IDs where one or more impairment causes identified in 2002 have been removed. Include the date of the IR or approved 303(d) list that reflects the removed water bodies.*
l	Improving Trend in Water Quality	*Describe the physical or chemical trend based on empirical data which may of may not be statistically significant (e.g., descriptive statistics) but nevertheless supports improvement.*
m	Supporting Trends (one or more)	*1. Evidence of improving trend in related biological indicator/index* *2. Evidence of improving trend in water quality based on predictive/modeled data, with field level ground truthing* *3. Evidence of widespread significant load reductions*
n	Evidence of implementation	*Evidence of widespread nonpoint source, point source, or other implementation actions*
o	No deteriorating trends	*No evidence of significant deteriorating trends in related parameters as called for in the analytical plan. A lack of evidence (data) for other parameters identified in the analytical plan is not adequate to support this line of evidence.*
p	Photos/Graphics (optional)	*Attach available photos or graphics, with captions, illustrating the local problem or project, and results.*

Refer to "Guidance on Reporting Watershed Improvement under Measure SP-12" for more complete descriptions of information requested in this template.