Use Restoration Watersheds Program

Problem and Management Premise

North Carolina's waters from the mountains to the coast are valued for the many uses they provide to our citizens and visitors such as drinking water supplies, commercial and recreational fisheries, aquatic life habitat and recreational opportunities. Unfortunately, many of the state's waters are impaired or unable to support these uses. There are hundreds of miles and acres of impaired waters in North Carolina. Increasing population and associated greater demand on the state's natural resources are contributing to the addition of impaired waters. In addition, the US EPA faces increasing pressure to improve water quality restoration and protection efforts nationwide or lose Section 319 restoration grant funding, and is calling on all states to meet specific restoration goals, embodied in its 2011 – 2015 Strategic Plan (http://www.epa.gov/planandbudget/strategicplan.html):

- 1) By 2015, attain water quality standards for all pollutants and impairments in more than 3360 waterbodies identified in 2002 as not attaining standards.
- 2) By 2015, improve water quality conditions in 330 impaired watersheds nationwide using the watershed approach (2002 baseline).
- Through 2015, ensure that the condition of the nation's streams and lakes does not degrade (i.e, no statistically significant increase in percent rated 'poor' and no statistically significant decrease rated 'good', 2006 baseline)

The NC Division of Water Quality established the Use Restoration Watersheds Program to restore the beneficial uses of impaired waters statewide. The "URW" Program fulfills this mission through the following three goals: 1) prioritizing waters for restoration, 2) promoting and supporting restoration initiatives, and 3) improving documentation and recognition of restoration efforts.

Goal One, prioritization, stems from the great number of impaired waters, the limited funds available for restoration work, and the time-consuming and technically and organizationally challenging nature of watershed restoration work. Prioritization depends in great part on available data and information. The Division is developing a comprehensive database-like structure to assist in prioritization efforts. Priority waters are those with better-understood watersheds and with more local involvement.

Our second goal, promoting and supporting restoration initiatives, is the central focus of the Program. Given limited staff resources, the Program functions as an enabler and facilitator to the many groups around the state that carry out restoration efforts. The Program pursues a variety of activities to foster this process. These activities include helping watershed groups identify and meet their needs to restore impaired water(s), conducting outreach to watershed stakeholders, recruiting projects, facilitating acquisition of funding and other resources, assisting in preparation of grant applications and watershed restoration plans, and potentially establishing a contractor pool to carry out priority projects.

Goal Three is to improve documentation and recognition of watershed restoration and implementation efforts and activities. Specifically, there needs to be a greater effort to document and then publicize measurable watershed improvements. Many restoration projects are in progress or have been completed around the state, and these are currently documented in varying degrees and locations. Better documentation and recognition of these efforts (particularly the successes) should help to direct additional efforts in given watersheds and educate a range of interests to increase support for this important work. The Division coordinates with various agency programs, both internal and external, to locate and improve documentation and recognition of the restoration and implementation efforts that have been completed or are underway in impaired watersheds across North Carolina. The Division

then incorporates results into our prioritization process, and also uses them in reporting to EPA and various interests to garner greater support for restoration activities. In sum, the Program intends to serve as an information hub and outreach effort on completed and ongoing restoration work statewide.

Background

The Use Restoration Waters (URW) program was created in 1995 to address persistent non-support of designated uses of the state's surface waters. The initial intent was for URW to be a supplemental surface water classification. Rules would be developed initially to establish the classification, and subsequently each time it was applied to a waterbody. However, the Environmental Management Commission did not support the concept of a supplemental classification deeming it unnecessary. Instead, in 1999, the Commission endorsed a revised URW concept based on a combination of incentives and potential regulation, or a carrot and stick approach. This approach has not been carried out fully due to budget and staffing issues.

The Division has revitalized the URW program to capitalize on the many positive water quality developments in recent years. The advent of restoration related funding programs such as EPA's 319 'incremental' (restoration) and Targeted Watershed Grant funding and North Carolina's Clean Water Management Trust Fund, and the evolution of the Ecosystem Enhancement Program have resulted in significantly more funds available for restoration related work. Other programs such as the North Carolina Agriculture Cost Share Program, USDA programs, and the North Carolina Conservation Reserve Enhancement Program also provide monies for water quality improvement efforts. These increased funds along with the emphasis on TMDL development, the NPDES Phase II stormwater program, and the increased federal emphasis on measurable results all add to the opportunity to make real progress in restoring water quality across the state.

The increased federal emphasis on measurable results helped contributed to the creation of the Watershed Coordination Section (formerly Watershed Management Office) within EPA – Region 4. Since its creation in early 2005, the WCS has worked closely with the DWQ-URW program. Together the two agencies have developed and are coordinating a concerted Restoration Watershed effort that is advancing the shared goal of restoring designated uses to impaired waters. One objective toward meeting this goal is to build skilled restoration teams across North Carolina. We have categorized the various players' roles and responsibilities as follows.

- I. Restoration Watershed Program Coordinators
 - A. Role: Liaison between Champions, Partners, and others
 - 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.

- a. Targeted Watershed Grant capacity building UNC-CH School of Government
- b. Haywood County Community College sustainable development program
- II. Champions
 - A. Role/definition: Local government, nonprofit, agency, district, etc. who is willing and able to lead and coordinate a watershed restoration effort
 - B. Responsibilities
 - 1. Identify problems and needs
 - 2. Identify and implement activities/solutions to problems and restore designated uses to impaired waters
 - 3. Develop (or help develop) a watershed plan that identifies
 - Problems and potential solutions,
 - How to implement solutions, and
 - How to measure progress toward these goals.
 - 4. Interface/coordinate with many stakeholders in watershed public outreach, political communication, strategizing, contractor coordination, etc
- III. Primary Partners
 - A. Role/definition: Local government, nonprofit, federal or state agency, district, etc. who is willing and able to greatly assist the Champions
 - B. Responsibilities (assisting Champions with their responsibilities mentioned in previous section) as follows:
 - 1. Communicate Champions needs to others.
 - 2. Help Champions to help themselves. Assist champions with restoration decision making
 - 3. Help Champions set restoration policy and direction
 - 4. Help Champions acquire restoration resources. (i.e, dollars and cooperators)
- IV. Support Partners
 - A. Role/definition: Local government, nonprofit, federal or state agency, district, etc. who has secondary role in assisting Champions
 - B. Responsibilities
 - 1. Awareness Keeps current on activities in watershed by occasionally attending local restoration meetings, watershed group's website, reading newsletter, etc.
 - 2. May provide limited assistance in the activities defined under Champions and Primary Partners
 - 3. Communicate Champion needs to others
 - 4. Looking for opportunities to assist Champions with restoration

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 needs in the watershed to restore it and then help to meet the needs. Specifically, the two agencies 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.

The **Champions** are the organizations primarily responsible for cleaning up the impaired water. In addition, there are two types of partners responsible for helping the Champion restore the water. **Primary Partners** work regularly with the Champions helping make decisions on how to move efforts toward restoration. **Support Partners** are kept aware of the restoration watershed status and look for opportunities to assist the efforts. One role or responsibility of all the players that is not listed in the preceding sections is to provide input on the prioritization process. Different players will have different levels of knowledge and may provide valuable input when trying to select the watershed(s) on which to focus.

Because each watershed is unique and the needs of each watershed are different, there are no formally assigned roles in the restoration watershed effort. Roles and responsibilities often evolve or better define themselves as projects progress. Table 1 at the end of this document identifies potential roles for a number of specific interests who participate in restoration work.

One basic concept behind the restoration watershed program is to improve the delivery system of getting technical, financial, and policy assistance from the Partners into the hands of the Champions. The Champions are encouraged to communicate their needs to Partners, so those Partners will better understand how to deliver their resources to the Champions. Figure 1 at the end of this document may help to illustrate the relationship between the different players.

The Watershed Restoration Improvement Team (WRIT) is a group of several different DENR divisions and programs (including some regional office involvement) that meet regularly to identify how they can better work together in an effort to further watershed efforts across the state. WRIT clearly plays a vital role in not only assisting the Champions and Partners in certain watersheds, but also improving the efficiency and effectiveness of watershed efforts that involve several DENR divisions/programs.

The DWQ Regional Offices have been more involved in taking a watershed approach in addressing impaired watersheds within their regions. Several of the ROs have selected a watershed on which to focus and the RO program activities will be focused in watersheds already selected when possible. The ROs may assist in one or more of the following areas (i.e., sampling, inspections, coordination with local players in watershed, etc.).

In addition, DWQ has also been involved with several larger watershed and even river basin efforts. The Neuse and Tar Pamlico Nutrient Management Strategies use a river basin approach to address the nutrient problems in these river basins. The Jordan Lake rules address nutrient problems in this large watershed. Incidentally, two of the watersheds in which EPA and DWQ are cooperating (Bolin Creek and Robeson Creek) are in the Jordan Lake watershed. Falls Lake and High Rock Lake are two other large watersheds where DWQ has a primary role in coordinating efforts to restore these impaired waters. Finally, DWQ has been developing TMDLs for impaired waters for many years. This focused effort restoring specific watersheds with impaired waters should greatly enhance TMDL implementation.

Meeting URW Goals

Prioritize Waters for Restoration: There are many impaired waters in North Carolina, but there are also many programs involved in watershed and water quality restoration. The Program prioritizes

waters based on an assessment of overall restorability. The following factors are considered when selecting watersheds on which to focus efforts:

- 1. Useful watershed information. Prioritization depends in part on available data and information (studies) that can provide: 1) Confidence in the impairment designation, 2) Ability to accurately identify causes, stressors and sources of impairment, as well as potential management solutions, and 3) Guidance for management solution implementation. Studies vary in intensity and scope, and watersheds vary as to number of studies, so these features can serve as ranking criteria. The Division is developing a database-like structure that will link statewide surface water information such as use-support, stressor, impairment source, level of local involvement, watershed characteristics, and recent studies such as TMDLs. The Program will examine the structure that will include studies for impaired waters to develop and regularly identify potential watersheds in which to focus. Potential candidates are generally those with better-understood watersheds and more local involvement.
- 2. Waters with Local Champions. As stated in the background section of this document, Champions are the organizations primarily responsible for cleaning up the water. Champions generally have strong relationships with many stakeholders in the watershed of interest. These relationships are important because restoring a watershed generally takes many stakeholders working together in a coordinated effort. Champions have already laid the groundwork for a good restoration watershed effort by having established strong relationships.
- 3. **WRIT Involvement**. If many different DENR divisions and programs have already prioritized and also have invested resources in one or more sub-watersheds, these may often be selected as subwatersheds in which to continue to work in a focused and coordinated manner.
- 4. **DWQ Regional Office (RO) Role.** The ROs also play a role in the restoration watershed effort. Because the ROs can potentially contribute a great variety of assistance (i.e., additional sampling, inspections, etc.), their role is considered when prioritizing and selecting watersheds. For example, if most characteristics between two watersheds are very similar, but one watershed has a greater potential for RO involvement because of the activities/facilities in the watershed, then this watershed could receive priority over the watershed without RO related activities/facilities during the selection process.
- 5. **EPA requirements.** EPA has delegated the development and operation of the North Carolina water quality program to the Division. EPA serves as a technical advisor ensuring that the Division meets the requirements of the Clean Water Act through implementation of the North Carolina water quality program. Currently, for reporting reasons, EPA prefers that North Carolina focus its watershed improvement efforts on those waters that were impaired in or before 2002. This is another factor considered when selecting potential watersheds in which to work.

Promote and Support Restoration of Impaired Waters: Once waters are prioritized, the Program promotes and supports the restoration of these waters by pursuing a variety of activities to foster progress in restoration. These include helping watershed groups identify and meet their needs to restore impaired water(s), conducting outreach to watershed stakeholders, recruiting projects, facilitating acquisition of funding and other resources, assisting in preparing grant applications and watershed restoration plans, and potentially establishing a contractor pool to carry out priority projects. Some of the items below have been partially completed, while others have not yet been instituted.

- 1. Promote restoration opportunities with other funding programs. After internal DWQ review, share restoration watersheds with the NC Clean Water Management Trust Fund, Ecosystem Enhancement Program, local Soil and Water District and Natural Resource Conservation Service offices, and others. These programs could consider adding weight to these watersheds in their reviews and could notify us of funding decisions these watersheds. This sharing is currently facilitated through the Watershed Restoration Improvement Team (WRIT) and should continue to improve with the development of database-like structure that can pull data from many different DENR divisions and programs.
- 2. Gauge local involvement and recruit projects. Local involvement should be fairly strong in selected watersheds since that is one of the factors used in prioritization. Where necessary, determine (or confirm) levels of local involvement in watersheds by working with Champions, Partners, and others to identify stakeholders. Where local involvement is confirmed or promising, work with Champions to coordinate with and educate stakeholders and identify and meet needs and opportunities. Assist stakeholders to develop funding requests.
- **3.** Assist restoration training programs. One of the goals of the watershed restoration program is to build skilled restoration teams that can work throughout the state. Work with community colleges, universities, cooperative extension and others to assist existing watershed training programs and help others begin programs where there is interest.

4. Develop, Share and Update Guidance to Champions, Partners, etc.

- a. <u>Section 319</u>. Written guidance to improve applicant understanding of what is expected for a good restoration proposal has been developed and placed on the 319 website (<u>http://h2o.enr.state.nc.us/nps/documents/319IncrementalGuidance_000.pdf</u>). This guidance should also be distributed through mailing lists, and provided to local groups.
- b. <u>Watershed restoration plan guidance</u>. This guidance is intended to assist those preparing nine and/or six element watershed restoration plans. EPA requires that plans developed for restoration activities in watersheds adhere to the 9-key elements watershed restoration plan guidance. EPA has developed guidance for preparing these plans that can be found at the following website: http://www.epa.gov/owow/nps/watershed_handbook/. In addition to the 9-Key

http://www.epa.gov/owow/nps/watershed_handbook/. In addition to the 9-Key Elements, EPA has also identified <u>six</u> elements that if addressed could exempt an impaired water from TMDL development. Because EPA's guidance can be overwhelming (especially for those preparing their first watershed plan), DWQ has developed guidance that is available at the following website: <u>http://h2o.enr.state.nc.us/basinwide/documents/DWQWatershedPlanGuidance7-16-09.pdf</u> Champions are primarily responsible for the development and implementation of a watershed restoration plan. These plans are crucial to successful watershed restoration projects because they do one or more of the following: identify stressors and sources of impairment, identify potential solutions (including potential roles and responsibilities of those responsible for implementing solutions), and set a schedule with milestones for measuring improvement. Thus, this guidance is very important.

- c. <u>Additional guidance (such as model restoration applications</u>). Can be developed as the need arises.
- **5.** Catalog funding sources. There are many different programs that provide funding that can be used for watershed restoration and improvement. This funding source information has been

compiled in the draft watershed restoration plan guidance and is also available at the following website: <u>http://h2o.enr.state.nc.us/basinwide/FinancialResourcesforWatersheds.htm</u>.

- 6. List Serv Development. A List Serv has been established to facilitate information sharing and exchange between Champions, Partners, and others interested in restoring watersheds in North Carolina. Please subscribe to the List Serv at the bottom of the URW website: http://portal.ncdenr.org/web/wq/ps/bpu/urw
- 7. Set and update restoration project goals. URW regularly works with the Champions to identify and meet needs and set and update goals for watershed restoration projects. Progress toward these goals will be documented as part of the following section Improve Documentation and Recognition of Restoration.

Improve Documentation and Recognition of Restoration: Many restoration projects are in progress or completed around the state, and these are currently documented in varying degrees and locations. Documentation and recognition serves a number of important purposes, including helping to direct additional efforts in given watersheds and educating a range of interests to increase support for this important work. Thus, the URW Program's third goal is to improve documentation and recognition of restoration and implementation efforts and activities. The Division will coordinate with various programs, both internal and external, to locate and improve documentation and recognition of the restoration and implementation efforts that have been completed or are underway in impaired watersheds across North Carolina. The Division then incorporates results into our prioritization process, and also uses them in reporting to EPA and various interests to garner greater support for restoration activities. Those watersheds that have been restored will receive the greatest recognition and congratulations to encourage other potential champions to 'adopt' a watershed and begin the restoration effort.

As the structure linking databases continues to improve, it should making reporting improvements (and all watershed activities) easier. Specific deliverables from this reporting include:

- **1.** Annual update to EPA through SP12s (and other measures). EPA requires DWQ to report at least one SP12 (watershed improvement document) each year.
- 2. Recognize and publicize watersheds that have been restored. Successful watershed restoration efforts will be publicized in one or more the following: URW website, 319 EPA website, DENR or DWQ website, DENR and/or EPA newletters, local newspapers, etc.
- **3.** Waters Ratings List. Maintain running list of impaired and supporting waters as each basinwide plan is completed. Completion of the Division's surface waters database-linking structure will greatly facilitate this task.
- **4. Watershed Efforts.** Document all watershed restoration and improvement efforts on all waters. Completion of Division's structure will also facilitate this task.

Table 1 – Potential Roles/Responsibilities of Players	Involved in Watershed Restoration
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Agency/Group	Roles/Responsibilities (a)
County Health Departments	- Help with public education/outreach
	- Provide assistance in onsite ww issues- better inspections
	and repairs
County Soil and Erosion Control Programs	- Help with public education/outreach
(delegated from NC)	- Provide assistance with erosion/sed impairment problems
NCDENR – Albemarle Pamlico National	- Help with public education/outreach
Estuary Program	- Serve as primary partner?
NCDENR – Clean Water Management	- Fund watershed plan development and implementation
Trust Fund	- Fund positions for WS coordinators
NCDENR - DEH-PWSS	- Influence water supply utilities (and others) to fund water
	supply watershed protection?
NCDENR - DEH-OSWW	- Tighter inspections and more repairs of onsite wastewater
	systems
NCDENR – DLR	- Focus inspection efforts where sediment determined to be
	primary stressor
NCDENR – DWM	- Focus efforts on facilities that have been determined to
	contribute to impairment
NCDENR – DSW	- Encourage local SWCDs to engage in watershed
	assessment and restoration
	- Assist with documentation of load reductions in different
	watersheds
	- Can serve as Primary Partners, Champions or Support
	Partners
NCDENR - DWQ-Basinwide Planners	- Help with public education/outreach
	- Incorporate Champion needs, efforts, successes? and
	monitoring reports in basinwide plans
NCDENR – DWQ – Regional Offices	- Identify "easy" fixes and focus efforts in those
	areas/watersheds.
	- Identify and work with facilities, governments, etc. that are
	contributing to impairment
	- Coordinate regulatory actions (i.e., inspections, monitoring,
	etc.??) in watersheds
NCDENR – Ecosystem Enhancement	- Work with consultants to develop (and then implement)
Program (EEP)	watershed plans
	- Partner with Champions to help leverage funds and restore
	watersheds
	- Serve as Primary Partner?
NCDOT	- Work with EEP (see above item)
	- Design and implement management measures and measure
	their effectiveness and also help to satisfy NPDES permit
	requirements
	- Calculate load reductions associated with management
	measures.
	- Develop schedule for implementing measures and
	milestones associated with these measures.
	- Implement BMPs to limit polluted runoff (including temp
	and water volume) from roads.
	- Improve fish passage for roads crossing streams
NC Farm Bureau	- Help with public education/outreach
NC Rural Water Association	- Help with public education/outreach
NC Soil Water Conservation Districts	- Serve as watershed Champion , Primary Partner or Support
(Local)	Partner – help assess and restore watersheds
	- Help with public education/outreach
NCSU – Agric Econ - WECO	- Help with public education/outreach

NCSU – BAE	- Design and implement management measures and measure
	Calculate load reductions associated with management
	- Calculate load reductions associated with management
	- Develop schedule for implementing measures and
	milestones associated with these measures
	- Assist champions with design of BMPs WS plans and
	monitoring strategies to document instream measurable
	results.
NCSU – Coop Ext – WQ Group	- Serve as a Champion, Primary Partner, or Support Partner
	and assist with all of the nine elements required in EPA
	watershed restoration plan (WRP)
	- Assist champions with design of BMPs, WS plans and
	monitoring strategies to document instream measurable
	results.
NCSU – Soil Science	- Design and implement management measures and measure
	their effectiveness
	- Calculate load reductions associated with management
	measures.
	- Develop schedule for implementing measures and
	milestones associated with these measures.
	- Assist champions with design of BMPs, WS plans and
	monitoring strategies to document instream measurable
	results.
NC – Wildlife Resources Commission	- Monitoring assistance
	- Identify habitat restoration needs
	- Implement stream/wetland restoration efforts
	- Serve as primary partner
Rural Water Association	- Help with public education/outreach
TVA	- Provide tech assistance, monitoring, policy assistance and
	funding in RW,
	- Serve as primary partner
Universities and Colleges	- Help with public education/outreach
USACOE	- Provide funding for restoration efforts
	- Provide guidance as to regulatory issues associated with
	watershed restoration efforts
USDA – NRCS	- Serve as a Champion (or primary partner) and assist with
	nine elements required in EPA WRP
	- Implement Farm Bill programs
Utility	- Provide funding for watershed protection and restoration
	efforts
Others??	

(a) Most of the above agencies/groups can likely help to do the following:

1. Help identify watersheds on which to focus.

2. Help identify stressors, causes, and sources of potential pollution problems

Thus these two responsibilities are not mentioned for each group. They are assumed.

(b) Generally, players can have different roles and responsibilities in different watersheds.







Restoration of 303d Waters