



North Carolina Wetlands Restoration Program
Lumber River Basin Watershed Restoration Plan



December 2003

Purpose and Background of the NC Wetlands Restoration Program

In 1996, the North Carolina General Assembly established the North Carolina Wetlands Restoration Program (NCWRP) to restore, enhance, preserve and create wetlands, stream, and stream-side (riparian) areas throughout North Carolina's seventeen major river basins. The NCWRP's goals are:

- To protect and improve water quality, reduce flooding, and improve fish and wildlife habitat by restoring degraded streams and wetlands.
- To promote the use of comprehensive watershed planning as a tool for natural resource management and protection.
- To increase the ecological effectiveness of compensatory mitigation requirements associated with wetland, stream and riparian buffer regulations.

Purpose of Watershed Restoration Plans

The NCWRP develops *Watershed Restoration Plans* to guide its restoration activities within each of the 17 major river basins. The Watershed Restoration Plans delineate specific watersheds that exhibit both the need and opportunity for wetland, stream and riparian buffer restoration. These watersheds are called Targeted Local Watersheds and receive priority for NCWRP planning and restoration project funds. In addition, the NCWRP encourages other groups and organizations to consider implementing restoration projects in Targeted Local Watersheds, because multiple restoration projects concentrated within a local watershed will result in greater benefits to water quality, aquatic habitat and other vital watershed functions.

This Watershed Restoration Plan complements two other documents: The *Lumber River Basinwide Water Quality Plan* (DWQ, 2002) <http://h2o.enr.state.nc.us/basinwide/index.html>, and the *Guide to the NCWRP's Watershed Restoration Planning Strategy (version 1)* <http://h2o.enr.state.nc.us/wrp/pdf/restplans/Planning%20Guide.pdf>



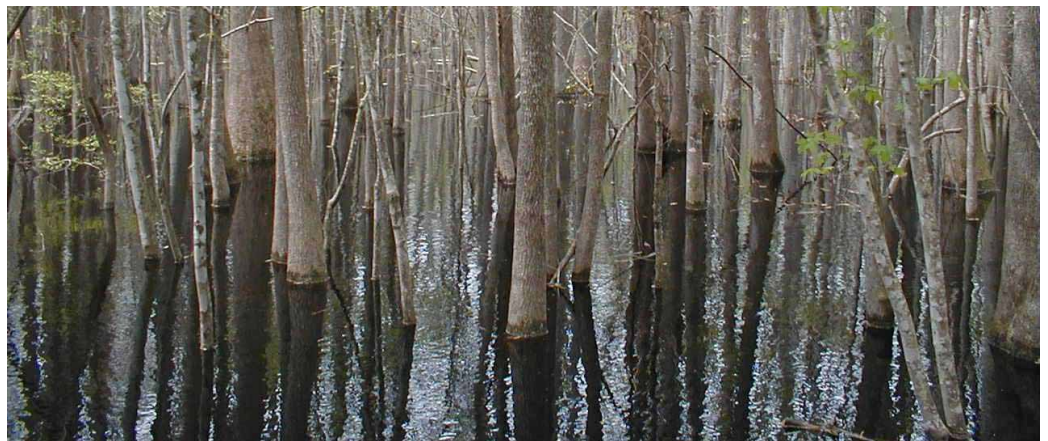
Special Note regarding EEP

In July of 2003 the NC Wetlands Restoration Program was officially merged with compensatory mitigation resources of the NC DOT to become the Ecosystem Enhancement Program (EEP). EEP is administered as a new program area within NC DENR and has essentially replaced the NCWRP. EEP's central mission includes the same goals of the former NCWRP [see above]. The Memorandum of Agreement of July 2003 between NC DENR, NCDOT and the Army Corps of Engineers further stipulates that EEP mitigation projects will be (1) provided in advance of the permitted NCDOT impacts, (2) designed to address functional replacement of stream, buffer and wetlands impacts, and (3) identified and implemented within the context of a watershed approach based on multiple scales of planning.

The EEP planning approach will continue to include the development of *Watershed Restoration Plans* on a basin-wide scale, GIS-based screening analyses of eight-digit cataloguing units (CUs), and local watershed planning (LWP) initiatives applied at the scale of 14-digit hydrologic units (HUs) and component sub-watersheds. A new *Planning Guide* will be prepared in 2004 to describe the updated EEP approach to watershed restoration planning at these various scales, including the selection of *Targeted Local Watersheds*, which will continue to play a key role in our Program's watershed restoration strategies.

Integrated Lumber River Basinwide Water Quality Plan

Prior to July 2002, the NCWRP developed Watershed Restoration Plans (formerly called *Basinwide Wetlands and Riparian Restoration Plans*) for each river basin in the state. Beginning with the Neuse River Basin in 2002, the NCWRP began incorporating its Targeted Local Watershed selections and restoration project information into the DWQ Basinwide Plans, available online at: <http://h2o.enr.state.nc.us/basinwide/index.html> This programmatic change allows the NCWRP to focus more planning effort at the local level where stream and wetland restoration efforts can have the greatest measurable impact.



Lumber River State Park, Columbus County

An abbreviated version of the NCWRP Watershed Restoration Plan is provided herein. The overarching goals of this plan are to protect and enhance water quality, flood prevention, wildlife habitat, and recreational opportunities. The objectives of the plan are to identify *Targeted Local Watersheds* within the basin which have the need and opportunity for restoration, enhancement, and preservation of water and riparian resources. Watersheds are identified through analysis of water quality and habitat data and geographic information (GIS), and a review process designed to integrate the advice and input from those resource professionals and citizens who live within the river basin.

Targeted Local Watersheds in the Lumber River Basin can be viewed at <http://h2o.enr.state.nc.us/wrp/plans/maps/riverbasinmap5.htm> A description of the factors that were considered in selecting these watersheds is presented below.



Lumber River State Park, Robeson County

Targeted Local Watersheds

The NCWRP evaluates a variety of data and information on water quality and habitat conditions in each river basin to select *Targeted Local Watersheds*. However, public comment and the professional judgment of local resource agency staff play a critical role in targeting local watersheds. A summary of the Targeted Local Watersheds selected for the Lumber River Basin, including a checklist of the pertinent factors for selecting those watersheds, is presented in the table below. A description of the process for Local Watershed targeting is provided in the *Guide to NCWRP Watershed Restoration Strategy* available online at: <http://h2o.enr.state.nc.us/wrp/pdf/restplans/Planning%20Guide.pdf>

A brief description of the factors NCWRP considers in watershed selection follows:

Water Quality Problems: The NCWRP targets watersheds with existing and potential water quality problems resulting from nonpoint source pollution. To make this determination, the NCWRP evaluates DWQ use support ratings, the 303(d) List and DWQ Basinwide Assessment reports: <http://www.esb.enr.state.nc.us/bar.html>. NCWRP also uses land cover data to evaluate riparian buffer condition. The NCWRP believes that riparian buffers provide many water quality benefits, and streams that lack a well-vegetated riparian buffer are at greater risk for water quality degradation.

Cumulative wetland and stream impacts: The cumulative effects of many small scale wetland and stream impacts due to farming, development and road building can have a detrimental effect on water quality. The NCWRP is responsible for addressing these cumulative impacts and uses data from the 401 Wetlands Program: <http://h2o.enr.state.nc.us/ncwetlands/html> database to locate those watersheds facing the greatest water quality threats due to unmitigated wetland and stream impacts.

Resource Values: The NCWRP recognizes that resource values beyond water quality should be considered in evaluating the restoration need and opportunity of a watershed. The resource values that the NCWRP considers in targeting local watersheds include public water supply, shellfish areas, outstanding or high quality resource waters, aquatic natural heritage elements and regulated trout waters.

Watershed Approach: The NCWRP watershed approach advocates concentrating multiple water quality projects in one relatively small watershed to yield a greater cumulative benefit to water quality. The NCWRP wants to tie wetland and stream restoration projects with other efforts such as agricultural best management practices (bmps),

stormwater controls, and riparian buffer preservation to restore or improve entire watershed functions, not just streams and wetlands. For this reason, the NCWRP targets areas with existing watershed planning or protection initiatives already underway.

Partnership Opportunities: To assess the potential for partnership opportunities at the local watershed scale, the NCWRP reviews existing or planned Clean Water Management Trust Fund and Section 319 projects, and also considers if a municipality is located in the watershed. Municipal governments often own good sites for water quality improvement projects, but may lack the technical expertise and the resources to implement the projects. For these reasons, the NCWRP views municipalities as good potential partners for restoration projects. In addition, many cities are subject to Phase I or Phase II Stormwater Regulations and gather monitoring information that is useful in designing and measuring the long term benefits of restoration efforts.

Land Cover: Water quality studies suggest that heavily forested watersheds regulate stormwater runoff, thereby reducing the likelihood for severe streambank erosion, nutrient runoff and sediment pollution. For this reason, the NCWRP uses the percentage of cleared land in a watershed as an indicator of restoration need and opportunity.

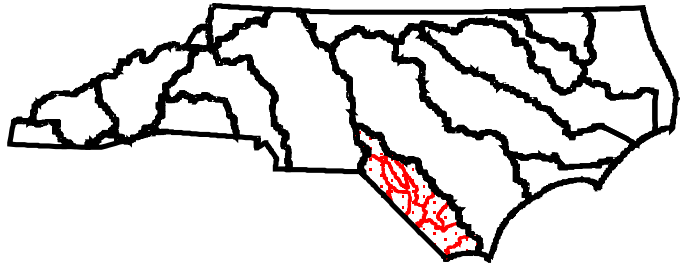
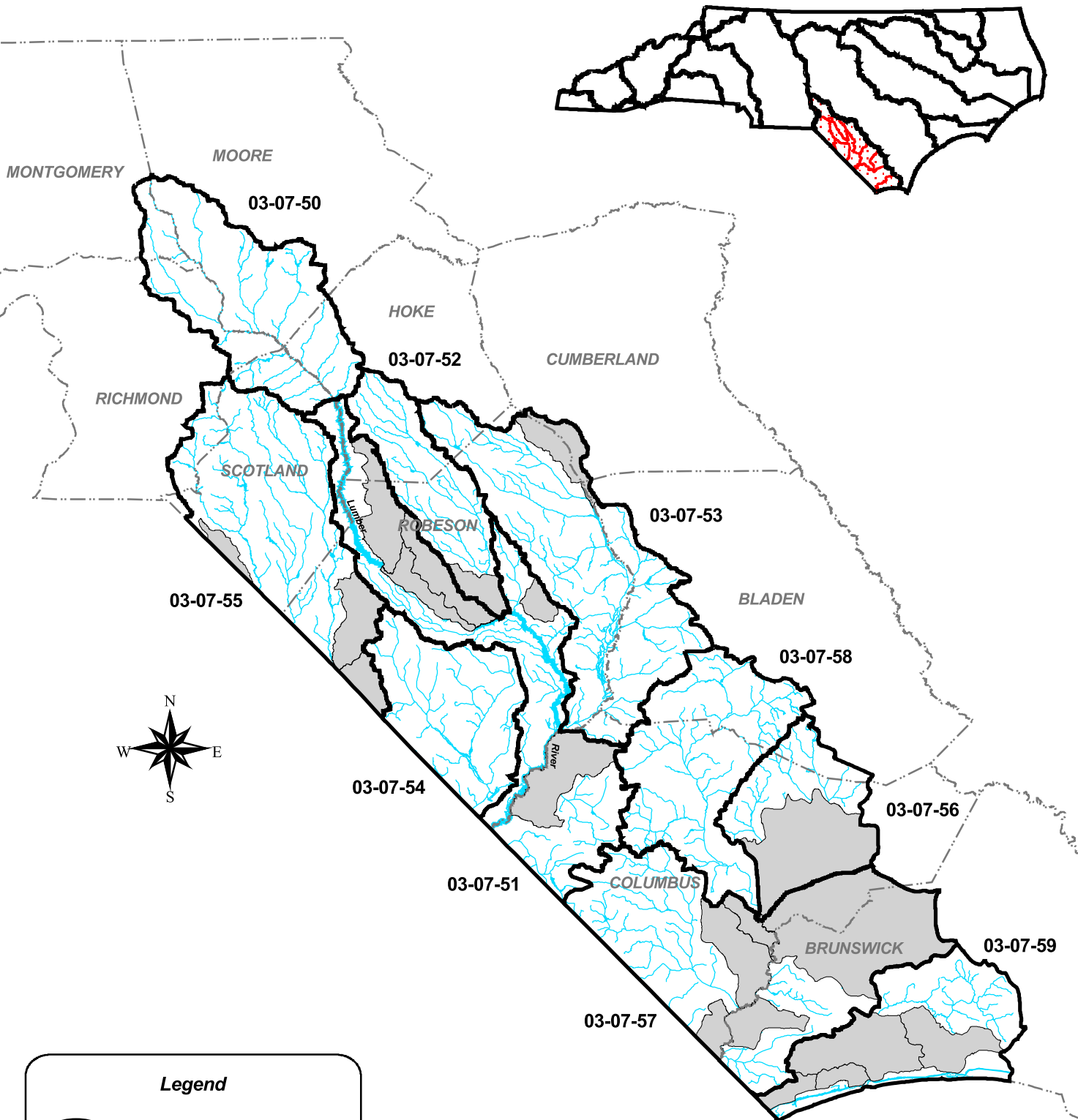
Local Resource Professional (RP) Comments/Recommendations: The comments and recommendations of local resource agency professionals — including staff with Soil & Water Conservation districts, NRCS, municipal planning & storm water departments, DENR regional staff (e.g., Wildlife Resources Commission), and local/regional Land Trusts — are considered heavily in the selection of Targeted Local Watersheds. Local resource professionals often have specific and up-to-date information regarding the condition of local streams, wetlands, and riparian buffers. Furthermore, local RPs may be involved in local water resource protection initiatives (and the acquisition of funding for such projects) that provide good partnership opportunities for NCWRP restoration projects and/or Local Watershed Planning initiatives.

Local Watershed Planning





In 2000, the NCWRP initiated a Local Watershed Planning Program to conduct detailed restoration planning in a limited number of Targeted Local Watersheds across the state. These locally-based plans include a comprehensive watershed assessment to identify causes and source of nonpoint source pollution. The plans also identify and prioritize wetland areas, stream reaches, riparian buffer areas and best management practices that will provide environmental benefits to the watershed. The NCWRP coordinates with local community groups, local governments and others to develop and implement these plans.

In July, 2003, the NC Wetlands Restoration Program initiated a Local Watershed Plan for the Bear Swamp / Lumber River Watersheds. The NCWRP will use the plan to evaluate current watershed conditions and to conduct a functional assessment of key watershed characteristics including water quality, hydrology and habitat. The end product of this planning effort will yield prioritized watershed restoration recommendations, including wetland and stream restoration, enhancement and preservation projects, Best Management Practices and policy recommendations for local governments to proactively address identified watershed degradation issues. These efforts will provide a functional uplift of degraded functions and will work to protect functional assets within the watershed planning area. The characterization of watershed conditions will be completed late in 2003, with the Local Watershed Plan scheduled for completion in late 2005. The NCWRP will coordinate with local community groups, local governments and others to develop and implement the plan. Public outreach efforts will be initiated by EEP in 2004 after the initial watershed characterization is completed. For more information, please contact Bonnie Duncan at: Bonnie.Duncan@ncmail.net or (919) 733-5208.

NCWRP Targeted Local Watersheds in the Lumber River Basin

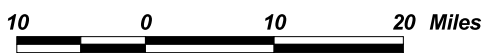


Legend

-  Subbasin Boundary
-  County Boundary
-  Hydrography
-  Targeted Local Watersheds



Planning Branch
Basinwide Planning Program Unit
June 3, 2003



Subbasin	Local Watershed Name and HU code	Impaired Stream(s)1	Public Water Supply 2	SA Waters 3	ORW or HQW 4	Aquatic NHP Elements 5	Existing, Planned Projects 6	Local Resource Professional Recommendation 7
51	03040203030010 Mill Branch					Yes		Yes
51	03040203040010 Gum Swamp					Yes		Yes
51	03040203050010 Bear Swamp							Yes
51	03040203080020 Ivey Branch		Yes		Yes		Yes DOT	
51	03040203190010 Cow Branch						Yes NCWRP	
52	03040203160030 Lower Raft Swamp							Yes
53	03040203110010 Cold Camp Creek							Yes
55	03040204010060 Panther Swamp/Bear Creek							Yes
55	03040204048010 Wilkinson Creek							Yes
55	03040204037010 Mitchell Swamp							Yes
56	03040206020040 Upper Waccamaw River				Yes	Yes		Yes
57	03040206030010 Juniper Swamp					Yes		Yes
57	03040206010070 Upper Waccamaw River					Yes		Yes
57	03040206050010 Middle Waccamaw River					Yes		Yes
57	03040206060010 Gore Creek					Yes		Yes

	Local Watershed Name and HU code	Impaired Stream(s) 1	Public Water Supply 2	SA Waters 3	ORW or HQW 4	Aquatic NHP Elements 5	Existing, Planned Projects 6	Resource Professional Recommendation 7
57	03040206090010 Big Creek					Yes		Yes
59	03040207020030 Lockwoods Folly	Yes		Yes	Yes	Yes		
59	03040207020060 Shalotte River	Yes		Yes	Yes			
59	03040207020110 Calabash Creek	Yes		Yes	Yes			
59	03040207020090 Jinny's Branch/ Saucepan Creek	Yes		Yes	Yes			

1 Stream segments (or entire streams) that do not support their designated uses and are therefore considered **impaired** based on declining biological ratings [e.g., due to degraded aquatic habitat] and/or failure to meet NC DWQ water quality standards. As identified in 2002 Draft Basinwide Water Quality Plan DWQ, 2002).

2 Water Supply (WS) = waters used as water supply sources for drinking, culinary, or food processing purposes.

3 SA Waters = shellfishing waters in estuarine areas

4 ORW = outstanding resource waters. **HQW** = high-quality waters, which include critical habitat areas or primary nursery areas.

5 Aquatic Natural Heritage elements are special species, habitats, or community types identified by the NC Natural Heritage Program and that occur, or spend some portion of their life cycle, in wetlands, streams, riparian areas, or estuarine waters.

6 Existing or planned projects in the following programs: NCWRP=North Carolina Wetlands Restoration Program;

CWMTF=Clean Water Management Trust Fund; CES=North Carolina Cooperative Extension Service; 319= North Carolina Division of Water Quality Section 319 Program; WARP=North Carolina Division of Water Quality Watershed Assessment and Restoration Program

7 Local Resource Professional Recommendation, as determined during the outreach process of updating the NCWRP Watershed Restoration Plan.

Streams, Wetland and Riparian Buffer Restoration Project

The NCWRP has initiated a stream and wetland restoration project in the Lumber River Basin. This project within Lumber River State Park in Columbus County will restore more than 4,000 linear feet of stream and 4 acres of wetlands. To learn more about the NC Wetlands Restoration Program, visit our website at <http://h2o.enr.state.nc.us/wrp/index.htm>

NCWRP Lumber River Basin Watershed Restoration Plan



Additional Information

For additional information regarding the NCWRP Lumber River Basin Watershed Restoration Plan please contact:

George Norris 919-733-5312 george.norris@ncmail.net

And visit the program website at <http://h2o.enr.state.nc.us/wrp/>

DWQ Lumber River Basinwide Water Quality Plan

For additional information regarding the DWQ Lumber River Basinwide Water Quality Plan please contact:

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And visit the program website at <http://h2o.enr.state.nc.us/basinwide/index.html>