

Watershed Restoration Plan for the Pasquotank River Basin



2002



EXECUTIVE SUMMARY

This document, prepared by the North Carolina Wetlands Restoration Program (NCWRP), presents a description of Targeted Local Watersheds within the Pasquotank River Basin. It is the first update since the original Basinwide Wetlands and Riparian Restoration Plan for the Pasquotank River Basin was released in 1998. This plan is different from the preceding document in that a more in-depth description is provided focusing on the areas of interest, the Targeted Local Watersheds. Local watersheds are targeted based on their need and opportunity for stream, wetland and riparian buffer restoration.

The watershed approach adopted by the NCWRP is the outgrowth of the recognition that water quality improvements are likely to have more pronounced and longer lasting effects if assessments and restoration efforts are focused on the local watershed level as opposed to discrete and isolated stream segments within the basin as a whole. The NCWRP hopes that the geographic targets provided will be used by other agencies, groups and local governments for the location of water quality improvement projects. Coordinating project implementation in watersheds with significant restoration need can allow for organizations with similar goals to generate greater positive ecological impact on North Carolina's aquatic resources through complementary efforts with cumulative benefits.

This document is designed for use in conjunction with the *Guide to NCWRP's Watershed Restoration Planning Strategy* (NCWRP, 2001). General information pertaining to program goals and plan methodology is provided in the planning guide. Information relating to Pasquotank River Basin restoration goals and basin-specific resource assessments are contained within this Restoration Plan.

In general, this document provides an overview of the Pasquotank River Basin, and describes each Targeted Local Watershed. In the overview of the basin (Section 2) is a map showing all four Pasquotank River subbasins highlighting the Targeted Local Watersheds. Section 2 contains a general description of the basin, habitat information, permitted wetlands losses and use support information.

In Section 3, basin-specific restoration goals are outlined, as well as a brief discussion regarding the Targeted Local Watershed selection process. This section also provides detailed information regarding the stakeholder process that was a valuable part of the development of this plan, as public input was solicited and weighed heavily in the selection of Targeted Local Watersheds.

Targeted Local Watersheds, organized by subbasin, are described in Section 4. Each section describes a subbasin and is followed by a map of that subbasin. Maps of Targeted Local Watersheds follow the text describing the watersheds within the subbasin section.

Section 5 contains contact information for various water quality initiatives taking place within the Pasquotank River Basin, including contacts for programs and projects being undertaken at the state and local levels.

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SECTION 1: INTRODUCTION

Purpose and Background of the NC Wetlands Restoration Program

Recognizing the value of wetlands and riparian areas for maintaining water quality, storing floodwaters, providing fish and wildlife habitat, and performing other valuable functions, the North Carolina General Assembly established the North Carolina Wetlands Restoration Program (NCWRP) in 1996. The purpose of the NCWRP is to restore, enhance, preserve and create wetlands, stream and riparian buffer areas throughout North Carolina's seventeen major river basins (G.S. 143-214.9). The goals of the program are:

- To protect and improve water quality by restoring wetland and stream functions and values lost through historic, current and future permitted impacts.
- To achieve a net increase in wetlands acres, functions, and values in all of North Carolina's major river basins.
- To promote a comprehensive approach for protecting natural resources.
- To provide a consistent approach to addressing wetland and stream mitigation requirements associated with wetland regulations, and to increase the ecological effectiveness of mitigation projects.

Purpose of Watershed Restoration Plans

To accomplish the goals described above, the NCWRP develops Watershed Restoration Plans to focus planning and implementation of restoration activities within each of the 17 major river basins. These plans provide information on areas in the state that the NCWRP has determined are a priority for restoration efforts. The NCWRP uses the Watershed Restoration Plans to target degraded wetland and riparian areas which, if restored, could contribute significantly to the goal of protecting and enhancing watershed functions.

The purpose of this document is to communicate to interested parties and individuals specific areas in the Pasquotank River Basin where the NCWRP will consider implementing restoration projects. This document also provides justification for those choices. It is intended to complement two other NC Division of Water Quality (DWQ) documents: 1) the Pasquotank River Basinwide Water Quality Plan (2001), and 2) *the Guide to the NCWRP's Watershed Restoration Planning Strategy* (NCWRP, 2001).

One purpose for communicating the specific watersheds where the NCWRP intends to focus its projects is to encourage other groups and organizations to consider implementing projects in these areas also. The NCWRP believes that multiple restoration projects concentrated within a local watershed will result in greater benefits to water quality and aquatic habitat.

Application of Geographic Information Systems (GIS)

In order to target areas of focus, the NCWRP relies heavily on geographic data. With a variety of habitat and water quality data available digitally, NCWRP staff can view a variety of information about river basins, subbasins and local watersheds to evaluate watersheds for restoration need and opportunity. The NCWRP uses the following data for this analysis: water

quality data (use support ratings and surface water quality classifications), resource information (location of streams, wetlands and important aquatic habitats), and basic location references (such as municipalities, roads and county boundaries).

As a component of the Watershed Restoration Plans, the NCWRP develops GIS-based maps to communicate NCWRP priority areas for restoration projects. Each restoration plan includes maps of the river basin, all subbasins that contain Targeted Local Watersheds, and each Targeted Local Watershed. To reduce printing costs, most of these maps are black and white. However, a full set of color maps are provided through the NCWRP web site for anyone interested in referencing more thorough and detailed geographic information on NCWRP targeted watersheds.

To evaluate watershed conditions, the NCWRP assesses multiple data and information sources describing the location and condition of natural resources. The information described in Sections 2 and 3 was compiled from a number of existing sources including DWQ's Basinwide Water Quality Plans, the Natural Heritage Program's Rare Plant and Animal Lists and the Wildlife Resource Commission's Division of Game and Inland Fisheries Draft Management Plan for the Pasquotank River Basin (WRC, 1998). A more detailed discussion of the types of information evaluated by the NCWRP is included in Section 2 of the *Guide to NCWRP's Watershed Restoration Planning Strategy*.

Perhaps the most important sources of information used by NCWRP in evaluating local watershed conditions within a given river basin are local resource professionals who work within or near the watersheds in question. These resource professionals include county and district staff within the Natural Resources Conservation Service (NRCS), Soil & Water Conservation Districts, Wildlife Resources Commission (WRC), DENR Regional Office staff, Cooperative Extension Service, and planning and stormwater management staff in county and municipal agencies. The NCWRP solicits input (advice, comments, recommendations) from these local resource professionals as part of the public review process for our Draft Targeted Local Watershed selections [see Section 3].

SECTION 2: OVERVIEW OF THE PASQUOTANK RIVER BASIN

Most of the following information is a summary of information contained in the Pasquotank River Basin Water Quality Plan produced by the Division of Water Quality in July of 2002.

The Pasquotank River Basin (Figure 1) encompasses 3,635 square miles of low-lying lands and vast open waters, including Albemarle Sound, in the state's northeast outer coastal plain. It includes all or portions of Camden, Currituck, Dare, Gates, Hyde, Pasquotank, Perquimans, Tyrrell and Washington counties. It contains numerous small watersheds that drain into Albemarle, Currituck, Croatan, Roanoke and Pamlico sounds. One of these watersheds is the Pasquotank River for which the basin is named. A small portion of the basin extends up into Virginia.

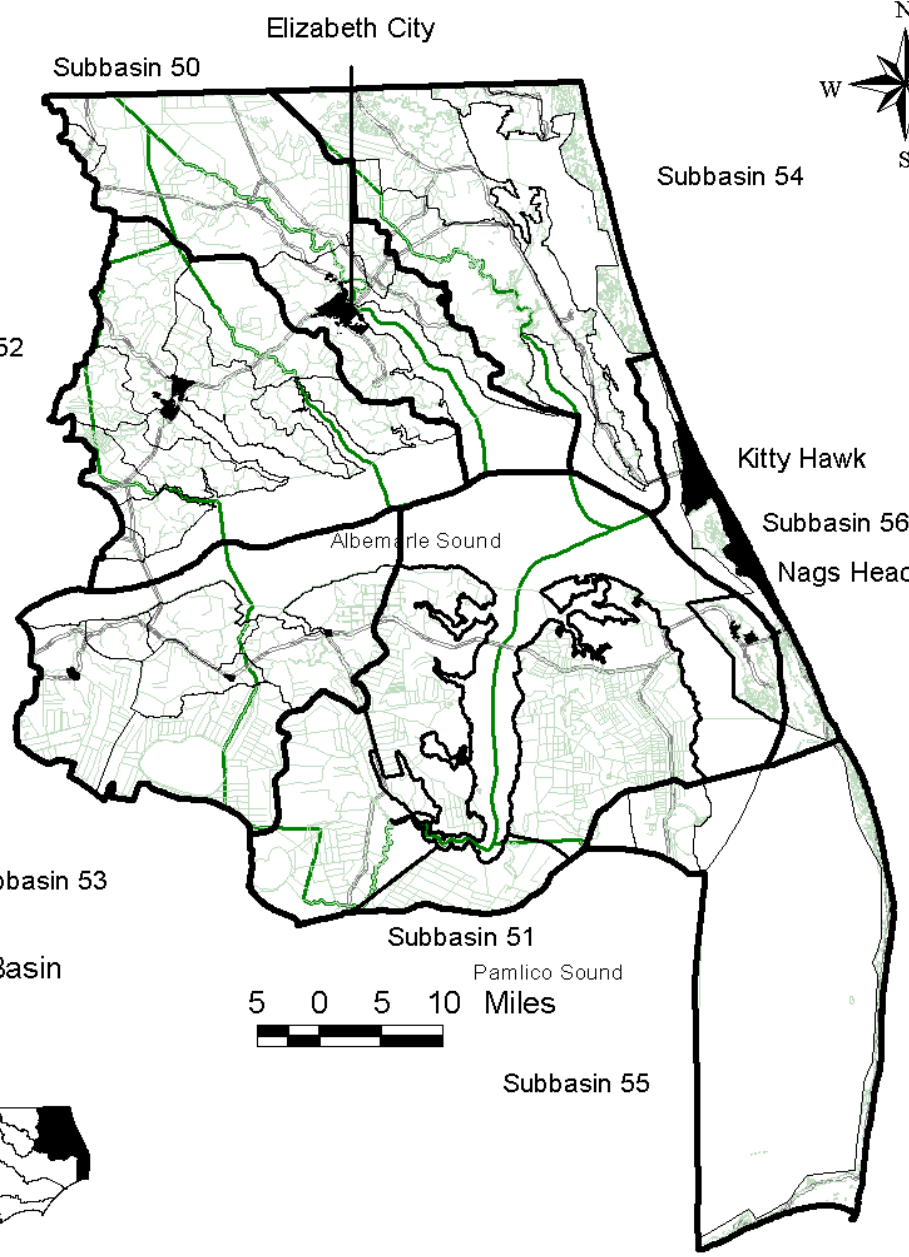
The Albemarle Sound is a large fresh to brackish estuarine water in northeastern North Carolina. Major tributaries are the Chowan, Roanoke, North, Pasquotank, Little, Perquimans, Scuppernong, and Alligator rivers. Salinities in the Albemarle Sound are low due to dilution from the large inflow of freshwater relative to the sound's volume. Likewise, the large inputs of freshwater from the Chowan and Roanoke rivers into the sound result in a relatively short retention time.

Major tributaries on the northwestern side of Albemarle Sound are the Pasquotank, Little and Perquimans rivers. The Pasquotank River below Elizabeth City is estuarine and fresh above. The Little River is a slow-flowing coastal stream. The Perquimans River originates in the Great Dismal Swamp and flows south before emptying into Albemarle Sound. The largest town in its watershed is Hertford. Land use in the area is mainly agriculture with widespread use of drainage canals.

On the southeastern side of Albemarle Sound are the Alligator and Scuppernong Rivers. The Alligator River is a large blackwater river, with a surface area of 64,000 acres that has been designated as Outstanding Resource Waters. It is remote from any urban areas and is bordered by wooded swamps and pocosins. The Alligator River National Wildlife Refuge extends along the entire eastern shore of the river. The river's outstanding resource is its function as a major spawning area for anadromous fish, principally river herring, and the national wildlife refuge. The Scuppernong River watershed is mainly forested wetlands and agriculture with widespread use of canals that drain wetlands.

Currituck Sound is a shallow, fresh to brackish estuarine water in the northeastern portion of the basin whose circulation is influenced largely by wind movement. In the past, Currituck Sound was a viable large mouth bass fishery and waterfowl hunting ground. A vast marsh area bordering a large portion of the Currituck Sound serves as a critical part of the Atlantic Flyway for migratory waterfowl. Thousands of wintering ducks, geese and swans contribute to the sound's reputation for waterfowl hunting. The Northwest River is a major tributary of Currituck Sound. It receives drainage from number of canals leading out of the Great Dismal Swamp. Most of the waters in this subbasin are estuarine, including Currituck Sound and the North River.

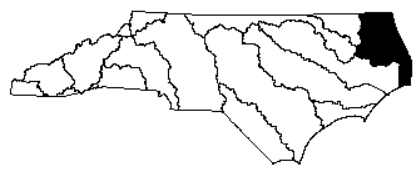
The Pasquotank River basin also includes waters along the Outer Banks south of Currituck Sound, including Roanoke Sound, Croatan Sound and Pamlico Sound from Oregon Inlet to Hatteras Inlet. Roanoke Island, with the cities of Manteo and Wanchese, and the Outer Banks



**Figure 1
Pasquotank
River Basin**

- Municipalities
- Subbasin Boundaries
- Local Watershed Boundaries
- Primary Roads
- County Boundaries

This map was produced on 2/5/02 by the North Carolina Division of Water Quality Wetlands Restoration Program. Data was provided by the North Carolina Center for Geographic Information and Analysis. The map is based on:
 Projection: Stateplane
 Zone: 4901
 Datum: NAD 83
 Spheroid: GRS 1980
 Units: Meters



from Nags Head to Southern Shores are the most developed areas. Land use in these areas is primarily residential and commercial. All waters in this subbasin are estuarine, with the exception of a few small lakes in the maritime forest of the outer banks. Much of the area lies within the Cape Hatteras National Seashore and Pea Island Wildlife Refuge.

The Pasquotank River basin is part of the Albemarle-Pamlico Estuarine system, the second largest estuarine system in the United States. In 1987 this estuarine system became part of the Environmental Protection Agency's National Estuary Program and was the subject of a major study known as the Albemarle-Pamlico Estuarine Study (APES). The results of research conducted as part of APES culminated in the Comprehensive Conservation and Management Plan (CCMP) which is currently being implemented, and is discussed further in Chapters 5 and 6. Basinwide management is part of this implementation.

Land cover data generated under APES revealed that 42% of the basin was open water. This was followed by agriculture (21%), wetlands (18%) and forest (17%). Based on data from the US Department of Agriculture Natural Resources Conservation Service (NRCS), land cover changes from 1982 and 1992 showed a 58% increase in the amount of urban/built-up land, and a 67% increase in pastureland.

The Pasquotank River basin has an estimated population of 97,215 people based on 1990 census data. Population density for the basin is 46 people/square mile. However, in Elizabeth City and the Kill Devil Hills/Nags Head area of the outer banks it is 305 people/square mile. The coastal areas, particularly around Nags Head, Kitty Hawk and Kill Devil Hills, have experienced tremendous growth in the twenty years between 1970 and 1990. According to figures from the NC Department of Administration, the counties of Currituck and Dare (which encompass the coastal area) are anticipated to experience 56% and 128% levels of population growth respectively from 1990 into the year 2020.

Water use in the basin comes from both surface and ground water sources, but the vast majority (94%) comes from ground water sources. From 1992 to the year 2020, water use is expected to rise significantly, growing by 89% (DWQ, 2002).

Habitat Information

Most of the following information is a summary of information contained in the Pasquotank River Basin Water Quality Plan produced by the Division of Water Quality in July of 2002.

The Pasquotank River basin constitutes a significant portion of the North Carolina Coastal Plain known as the Embayed Region. The name Embayed Region refers to the prominence of drowned river valleys that form the large sounds and many bays. The land in the Embayed Region is universally low and flat, and most is poorly drained. This region contains the largest acreage and proportion of wetlands in the state. The extensive reach of the Pasquotank River basin -- from the coastal environment of the outer banks, across estuaries, to embayed rivers and natural lakes -- captures many types of wetland communities. Vast peatlands occupy the centers of peninsulas between the drowned rivers. On the fringes of the peatlands are flat mineral soil wetlands, which are kept saturated primarily by rainfall and sheet flow. Additional large areas of organic and mineral soil swamps and marshes lie adjacent to the sounds and tidally influenced rivers.

Freshwater tidal wetlands are an important component of the landscape in the Pasquotank basin, especially along Currituck Sound and the North and Northwest Rivers. Along the Albemarle Sound, Tidal Cypress-Gum Swamp communities characterize the land-water interface.

Nonriverine wetland communities in the Pasquotank River basin include Nonriverine Swamp Forest, Nonriverine Wet Hardwood Forest, High Pocosin, Low Pocosin, Pond Pine Woodland, Peatland Atlantic White Cedar Forest, and Bay Forest. Both the Dismal Swamp and the Dare mainland contain extensive Nonriverine Swamp Forest, and they also support patches of Atlantic White Cedar, Pocosin, and Pond Pine Woodland. The extent of the natural areas in both the Dismal Swamp and the Dare mainland allows for the natural ‘shifting mosaic’ pattern of these wet peatland communities. The Nonriverine Wet Hardwood Forest community, which is dominated by oaks, is not part of the ‘shifting mosaic’ pattern, being associated more with mineral soils than organic soils and peatlands. The high productivity of the Nonriverine Wet Hardwood wetland community soils when cleared for agriculture has led to a drastic decline in the acreage of this community type across the state. Natural Lake Shoreline is a wetland community type composed of the vegetated shoreline zone of large natural lakes. The vegetation may include emergent graminoids and other herbs, shrub thickets, Cypress--Gum Swamps, or various bottomland species. The Natural Lake Shoreline of Phelps Lake in Washington County is a high-quality example of this wetland community type that is protected within Pettigrew State Park. Nontidal coastal fringe wetlands occur primarily on the Outer Banks.

Wetland communities on the Outer Banks include Maritime Swamp Forest and Maritime Shrub Swamp, examples of which are protected at Nag’s Head Woods; Maritime Wet Grassland, an example of which is found in the Pine Island Audubon Sanctuary in Currituck County; and Interdune Pond, a protected example of which is found at Cape Hatteras National Seashore. (Natural Heritage Program, 1999).

Wetland and Riparian Area Species Information

The Pasquotank River Basin has over 90 rare animal and plant species. There are 2 endangered mussels and one endangered snail in the river basin. Endangered, threatened or special concern species within the basin include: Bald Eagle, American Alligator, Red Wolf and Loggerhead Turtle. (Natural Heritage Program, 1999).

In addition, the Pasquotank River Basin has three federally listed rare plant species. Many of the rare plants in the Pasquotank Basin grow in the wet soils of bottomlands, backswamps and swamp forests and are indirectly affected by water quality and quantity (Natural Heritage Program, 1999).

According to the N.C. Wildlife Resources Commission (WRC), over 60 freshwater fish species and 30 saltwater fish species inhabit the waters of the Pasquotank River Basin. Popular sportfish species found in the rivers and sounds include striped bass, largemouth bass, sunfish, crappie, catfish, white and yellow perch and pickerel. These fisheries attract thousands of anglers annually. Anadromous species such as striped bass, hickory and american shad, and river herring migrate into the Albemarle Sound and its tributaries to spawn each spring. The

Pasquotank River also supports commercial fisheries for species such as flounder and blue crab (Wildlife Resources Commission, 1998).

A detailed listing of the state's rare animal and plant species can be found in the "Natural Heritage Program List of Rare Animal Species of North Carolina" or the "Natural Heritage Program List of the Rare Plant Species of North Carolina" which are published annually. In addition, more information about fisheries in the Pasquotank River Basin can be found in the "Draft Fisheries Management Plan for the Pasquotank River Basin" developed by the N.C. Wildlife Resources Commission, Division of Inland Fisheries.

Permitted Wetland and Stream Losses

The Division of Water Quality regulates activities involving streams and wetlands to ensure that construction projects cause minimal damage to these resources and that unavoidable impacts are addressed through mitigation projects. One important role of the NCWRP is to provide compensation for permitted impacts to wetlands and streams that fall below the regulatory threshold of less than one acre for wetlands and less than 150 feet for streams. The NCWRP uses the permitting database maintained by the Wetlands/401 Certification Unit of the Division of Water Quality to evaluate where the permitted impacts to wetlands and streams across the river basin are the greatest and where NCWRP projects are needed to offset unmitigated impacts.

Tables 1 through 4 below present a summary of permitted wetland and stream impacts in the Pasquotank River Basin for 1995 to 2001, broken down by subbasins (source: DWQ -Wetlands 401 Program, 2002). Permitted **wetland impacts** total 383.72 acres over this time period, with projects in Subbasin 54 accounting for nearly 66% of this total. Permitted *but unmitigated* [less than 1 acre] impacts to wetlands total 41.83 acres over the same time period, with Subbasins 54 and 55 accounting for over 24% and 23 % respectively of these smaller, but cumulatively important permitted impacts. These are the subbasins experiencing the most growth in the river basin (DWQ 2002). Unmitigated [less than 1 acre] wetland impacts in the Basin cumulatively represent 11% of the total permitted impacts to wetlands in the Basin. **Stream impacts** from 1996 to 2001 total 1,020 linear feet, with Subbasins 54 and 55 accounting for 22% and 29% respectively. Unmitigated stream impacts [for projects less than 150 linear feet] over this time period amount to 756 feet of this total, accounting for 74% of the total stream impacts for the basin.

Table 1: Permitted Wetland Impacts (acres) in the Pasquotank River Basin by subbasin from 1995-2001.

Division of Water Quality Subbasins	Counties in Subbasin	1995	1996	1997	1998	1999	2000	2001	Subbasin Total
03-01-50	Camden Pasquotank	1.25	2.59	10.56	1.57	0.51	0.5	0.73	17.71
03-01-51	Dare Tyrell	0.53	1.04	0.26	40.35	10.74	1.44	6.47	60.83
03-01-52	Chowan, Gates Pasquotank Perquimans	28.73	5.09	1.05	0.07	1.02	1.41	2.01	39.38
03-01-53	Tyrell Washington	0.67	0	0.33	0	0.6	0.06	0.84	2.46
03-01-54	Camden Currituck	242.63	1.72	1.23	1.32	0.74	1.44	2.55	251.63
03-01-55	Dare	0.62	1.34	3.05	1.67	1.42	1.62	1.54	11.26
03-01-56	Dare	0.16	0	0.14	0.01	0.01	0.13	0	0.45
TOTAL ACRES		274.59	11.78	16.62	44.99	15.04	6.6	14.14	383.72

Table 2: Permitted Unmitigated Wetland Impacts (acres) in the Pasquotank River Basin by subbasin from 1995-2001: Projects less than 1 acre.

Division of Water Quality Subbasins	Counties in Subbasin	1995	1996	1997	1998	1999	2000	2001	Subbasin Total
03-01-50	Camden Pasquotank	1.25	2.59	0.75	0.57	0.51	0.5	0.73	6.9
03-01-51	Dare Tyrell	0.53	1.04	0.26	0.51	0.76	1.44	1.58	6.12
03-01-52	Chowan, Gates Pasquotank Perquimans	0.17	0.09	1.05	0.07	1.02	1.41	2.01	5.82
03-01-53	Tyrell Washington	0.67	0	0.33	0	0.6	0.06	0.84	2.5
03-01-54	Camden Currituck	1.12	1.72	1.23	1.32	0.74	1.44	2.55	10.12
03-01-55	Dare	0.62	1.34	1.61	1.67	1.42	1.62	1.54	9.82
03-01-56	Dare	0.16	0	0.14	0.01	0.01	0.13	0	0.45
TOTAL ACRES		4.62	6.78	5.37	4.15	5.06	6.6	9.25	41.83

Table 3: Permitted Stream Impacts (linear feet) in the Pasquotank River Basin by subbasin from 1995-2001.

Division of Water Quality Subbasins	Counties in Subbasin	1995	1996	1997	1998	1999	2000	2001	Subbasin Total
03-01-50	Camden Pasquotank	0	0	0	0	0	40	0	40
03-01-51	Dare Tyrell	0	0	0	0	0	0	146	146
03-01-52	Chowan, Pasquotank Perquimans	0	0	0	0	0	40	130	170
03-01-53	Tyrell Washington	0	0	0	0	0	0	141	141
03-01-54	Camden Currituck	0	0	0	0	100	30	99	229
03-01-55	Dare	0	0	0	264	0	0	30	294
03-01-56	Dare	0	0	0	0	0	0	0	0
TOTAL FEET		0	0	0	264	100	110	546	1,020

Table 4 Permitted Unmitigated Stream Impacts (linear feet) in the Pasquotank River Basin by DWQ Subbasin from 1996-2001: Projects less than 150 linear feet

Division of Water Quality Subbasins	Counties in Subbasin	1995	1996	1997	1998	1999	2000	2001	Subbasin Total
03-01-50	Camden Pasquotank	0	0	0	0	0	40	0	40
03-01-51	Dare Tyrell	0	0	0	0	0	0	146	146
03-01-52	Chowan, Pasquotank Perquimans	0	0	0	0	0	40	130	170
03-01-53	Tyrell Washington	0	0	0	0	0	0	141	141
03-01-54	Camden Currituck	0	0	0	0	100	30	99	229
03-01-55	Dare	0	0	0	0	0	0	30	30
03-01-56	Dare	0	0	0	0	0	0	0	0
TOTAL FEET		0	0	0	0	100	110	546	756

Division of Water Quality Use Support Ratings

Waters are classified according to their best-intended uses. Determining how well a water body supports its designated uses is an important method of interpreting water quality data and assessing water quality. The NCWRP uses the use support assessments as criteria in determining restoration need within a local watershed. A water body that is designated as "partially supporting" or "not supporting" its designated uses indicates that wetland and/or stream restoration initiatives within that local watershed could be beneficial to water quality. These two use support designations will cause a water body to be listed as "impaired". If nonpoint source pollution issues are indicated as factors affecting water quality, the NCWRP may consider it as a water body in need of restoration.

The Pasquotank River Basin has a total of 474.1 miles of freshwater streams, 110.6 miles of coastal streams, 22,770 freshwater acres (freshwater marshes) and 918,223 estuarine acres. The first 3 categories are all not rated (see Figure 2). **Only** the estuarine acres are rated. For the aquatic life/secondary recreation category, 0% are rated as not supporting; 0% are rated as partially supporting; and 68.1 % are rated as fully supporting. The remaining 31.9% of estuarine acres in the Pasquotank River Basin were not rated.

For individuals wanting more detail about use support ratings, the Pasquotank River Basinwide Water Quality Plan can be downloaded from the Division of Water Quality website at <http://h2o.enr.state.nc.us/basinwide/> or is available from the Division of Water Quality at (919) 733-5083 ext. 374.

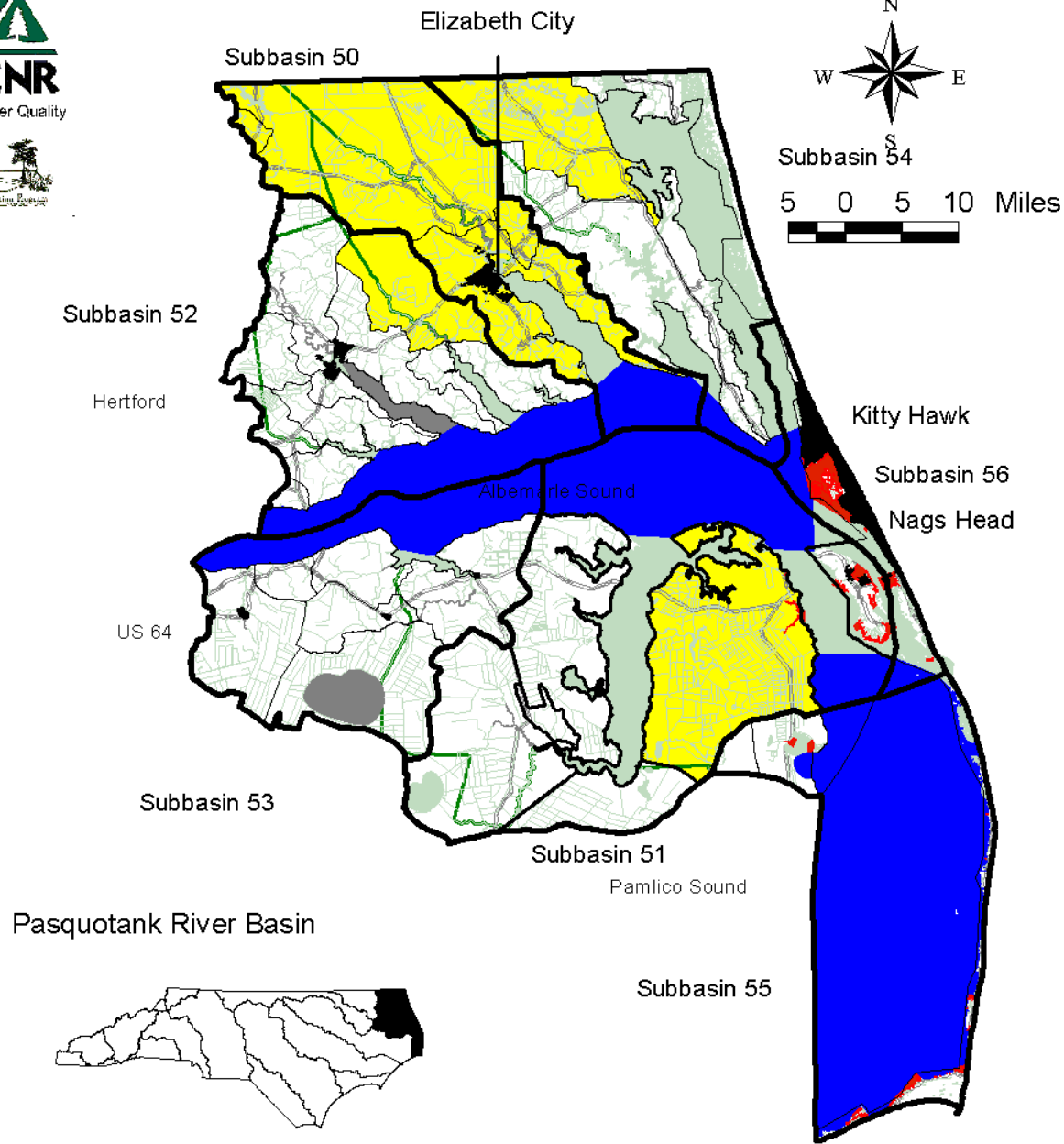


Figure 2
Pasquotank
River Basin
Targeted Local
Watersheds and
Use Support
Classifications

- Local Watershed Boundaries
- Targeted Local Watersheds
- Use Support Ratings
 - Closed Shellfish Waters
 - Fully Supporting
 - Not Rated
 - Not Monitored
- Primary Roads
- County Boundaries
- Municipalities

This map was produced on 2/5/02 by the North Carolina Division of Water Quality Wetlands Restoration Program. Data was provided by the North Carolina Center for Geographic Information and Analysis. The map is based on:
 Projection: Stateplane
 Zone: 4901
 Datum: NAD 83
 Spheroid: GRS 1980
 Units: Meters

SECTION 3: RESTORATION GOALS FOR THE PASQUOTANK RIVER BASIN

Based on an assessment of existing watershed characteristics and resource information, the NCWRP has developed four broad restoration goals for the Pasquotank River Basin. Each goal reflects the NCWRP's watershed restoration strategy to focus restoration projects within local watersheds in order to address water quality impacts from nonpoint source pollution. The goals also reflect the NCWRP's focus on restoring wetland and riparian area values such as maintaining and enhancing water quality, increasing storage of floodwaters, and improving fish and wildlife habitat. The restoration goals for the Pasquotank River Basin are listed below.

- Restore ditched wetlands to improve the habitat, fishery and flood control functions of these wetlands;
- Reduce sediment loading and other pollutants from surface runoff by increasing the soil retention, filtration, and nutrient uptake functions of wetland and riparian areas;
- Contribute to the re-opening of closed (posted) shellfish waters within certain tidal creeks;
- Restore and protect wildlife corridors and other key links to high-value habitat areas; and
- Restore and protect natural breeding, nesting and feeding habitat to promote species richness and diversity.

Targeted Local Watersheds

In order to meet the identified restoration goals, the NCWRP has identified seven Targeted Local Watersheds in the Pasquotank River Basin (Figure 2). These geographic priorities have been selected based on need and opportunity for restoration in order to focus projects in specific areas in the basin. The decision-making process used to make these selections is described in detail in the *Guide to NCWRP's Watershed Restoration Planning Strategy* (NCWRP, 2001). The purpose for selecting the Targeted Local Watersheds for NCWRP focus is to concentrate project efforts in areas with the highest need and opportunity for restoration. In doing so, projects are more likely to result in water quality protection and improvement through the cumulative benefit of multiple projects.

Public Input into the Targeted Local Watershed Selection Process

To solicit input on Targeted Local Watershed selections, the NCWRP held a Resource Professionals Meeting at Camden County Senior Center in Camden County, NC on Wednesday, August 22, 2001. The purpose of the meeting was threefold:

1. Explain the NCWRP to resource personnel;
2. Describe the types of sites NCWRP seeks for stream and wetland restoration, and find out about existing and ongoing water quality improvement projects within the basin; and
3. Gather information from local resource professionals and citizens about which local watersheds NCWRP should target.

The following agencies and groups were notified about these meetings:

The Natural Resources Conservation Service, NC Soil and Water Conservation Districts, Department of Environment and Natural Resources (Washington Regional Office), the US Fish and Wildlife Service, The North Carolina Sea Grant Program, the North Carolina Wildlife Resources Commission, North Carolina Farm Service Agency, NC Forest Service, and county and municipal governments within the Pasquotank River Basin.

As a follow-up to the Resource Professionals Meetings, a letter was sent out to all invitees on December 21, 2001, informing them of the Draft Targeted Local Watersheds. Additionally the Draft Targeted Local Watersheds were presented in the Draft Pasquotank River Basin Water Quality Plan which was printed in the fall on 2001. The deadline for commenting on the Draft Targeted Local Watersheds was January 31, 2002.

Important Local Watersheds Outside Targeted Local Watersheds

The 7 local watersheds that have been "targeted" in this Plan represent those which, in the best professional judgment of the NCWRP and based on the best available information, are (1) likely to provide the best opportunities for stream, wetlands, or riparian buffer restoration; and (2) which may have ongoing water quality initiatives and projects that could be linked with NCWRP restoration projects; and (3) which also have a clear and significant need for water quality and aquatic habitat restoration or preservation. The fact that a given local watershed within the Pasquotank River Basin may not have been selected as a Targeted Local Watershed in this Plan does not necessarily mean that the watershed is not worthy of water quality or habitat restoration initiatives. The Pasquotank River Basin may contain additional local watershed units, beyond the 7 Targeted Local Watersheds identified in this plan, that hold unique or significant natural aquatic resources and that may be affected by nonpoint source pollution.

The NCWRP appreciates the information and recommendations we receive from interested citizens in the Basin. We generally focus our restoration efforts in Targeted Local Watersheds (TLWs); however, we will consider other opportunities for restoration projects that may fall outside of our TLWs, if they make good economic, hydrologic, and ecological sense.

Wetlands Restoration Program Local Watershed Planning Initiative

In addition to identifying Targeted Local Watersheds in our Watershed Restoration Plans for each of the major river basins in North Carolina, the primary aim of which is to encourage water quality and habitat restoration efforts in these local watersheds, NCWRP has also initiated Local Watershed Planning Initiatives in selected high-priority local watersheds across the State. NCWRP is using funds provided by the NC Department of Transportation (DOT) to develop Local Watershed Plans over the next seven years in watersheds with water quality restoration needs and where future DOT projects are expected to significantly impact wetlands, streams and riparian buffers.

During fiscal year 2001-2002, a Local Watershed Planning process has been initiated in a cluster of local watersheds [14-digit NRCS hydrologic units] in Subbasin 50 of the Pasquotank River Basin. This initiative is assessing all sources of nonpoint source pollution in these local watersheds and will be developing a comprehensive strategy for improving water quality through a consensus-driven process involving local stakeholders. In accordance with the overarching strategy of NCWRP, restoration projects identified through this process will be linked to other water quality improvement efforts initiated at the local level, such as stormwater management projects, water supply protection strategies, land use planning guidelines, and BMPs for reducing sediment and nutrient pollution.

Bonnie Duncan is the NCWRP Watershed Planner for this initiative in Subbasin 50 of the Pasquotank basin, and she can be contacted at (919) 733-5315 for additional information regarding this effort.

SECTION 4: TARGETED LOCAL WATERSHEDS IN THE PASQUOTANK RIVER BASIN BY SUBBASIN

This section summarizes the condition of natural resources within each of the Targeted Local Watersheds in the Pasquotank River Basin. Information on Targeted Local Watersheds is organized by subbasin. This section also includes information about potential causes of resource degradation within these areas from the Division of Water Quality's Pasquotank River Basinwide Water Quality Plan (DWQ, 2002), comments provided by resource professionals within the basin, and comments from the public within the basin. Maps of each described subbasin showing the Targeted Local Watersheds are provided (Figures 3,4, 6 and 8).

The term "local watershed" denotes a small, defined drainage area within a larger subbasin. Specifically, the term "local watershed" or "Targeted Local Watershed" refers to the 14-digit hydrologic unit as defined by the Natural Resource Conservation Service. The term "subbasin" is reserved solely to denote a 6-digit subbasin of the larger Pasquotank River Basin, as defined by the Division of Water Quality.

Subbasin 03-01-50	
<i>Area (square miles):</i>	454.8
<i>1990 Population Estimate:</i>	31,369
<i>Land Cover:</i>	
Forest/Wetland	46%
Surface Water	18%
Urban	1%
Cultivated Crop	34%
Pasture/managed herbaceous	1%
<i>Use Support Summary (Aquatic Life/Secondary Recreation) for estuarine area (acres):</i>	
• Fully Supporting	28,665.8
• Partially Supporting	0
• Not Supporting	0
• Not Rated	23,208.9

Subbasin 03-01-50 – Pasquotank River:

This subbasin consists of the Pasquotank River and its tributaries. The Pasquotank River headwaters arise from the Great Dismal Swamp (a National Wildlife Refuge). As the river travels south to the Albemarle Sound its waters become more brackish. Table 5 provides a statistical summary of Targeted Local Watersheds in this subbasin.

Pasquotank River and tributaries Targeted Local Watersheds 10010, 10020, 40010 and 50010

All watersheds within this subbasin are Targeted Local Watersheds and these watersheds are all part of a Local Watershed Plan initiated by the NCWRP in December of 2001. The Pasquotank River drainage was selected for Local Watershed Planning due to water

quality concerns including sedimentation, urban and agricultural nonpoint source pollution, observed stream instability and proximity to future DOT impacts. This subbasin has also been impacted by stormwater runoff, flooding, sedimentation and habitat degradation issues (DWQ, 2002). Pasquotank and Camden Counties are also experiencing increasing development pressure, which may lead to future watershed degradation if no actions are taken. The two photos on page 17 depict a typical swamp stream of the subbasin, as well as a stream with nutrient loading issues.



3 0 3 6 Miles

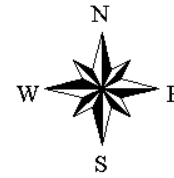
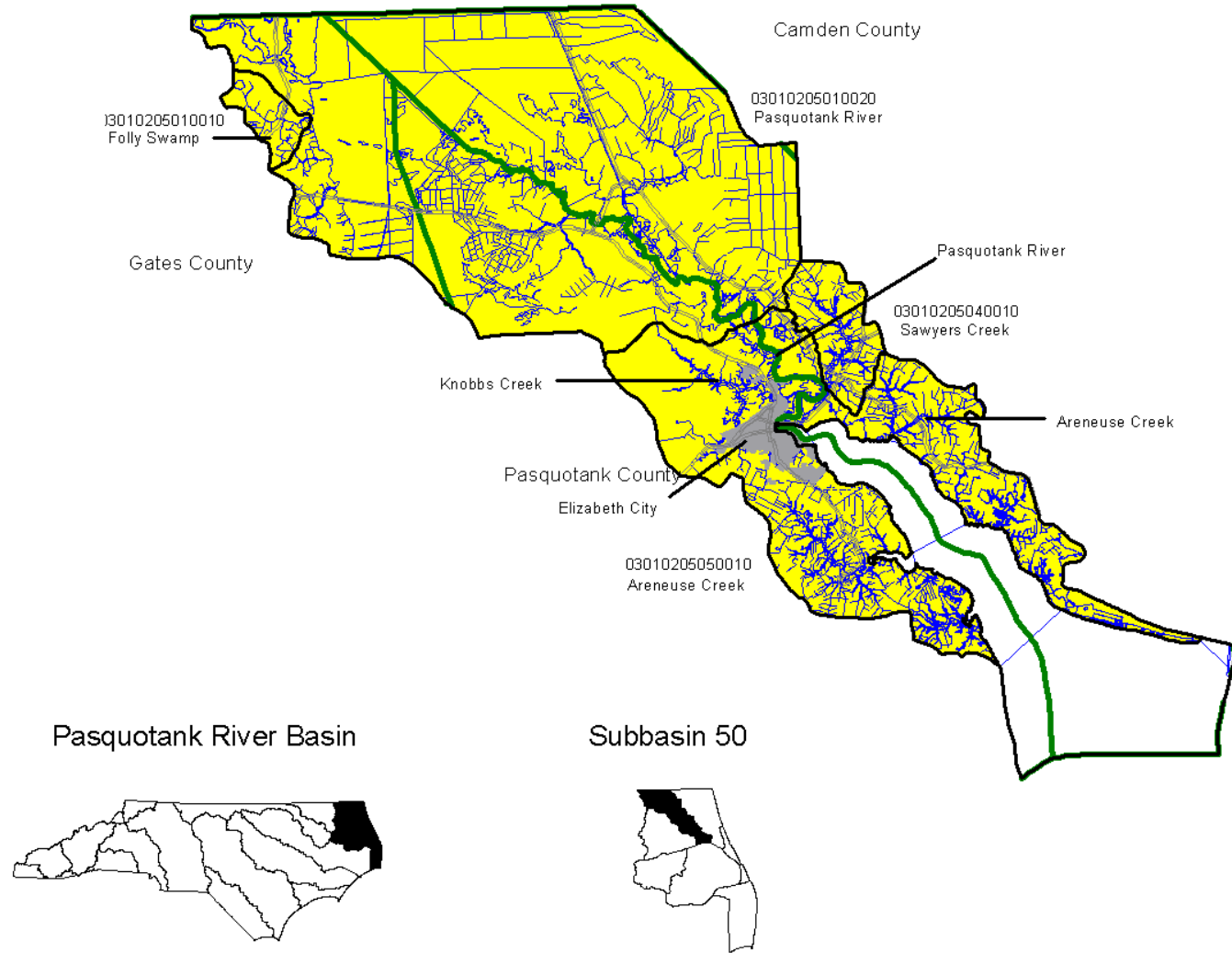


Figure 3
Pasquotank River Basin
Subbasin 50



- Local Watershed Boundaries
- Targeted Local Watersheds
- Primary Roads
- County Boundaries
- Municipal Boundaries
- Hydrography

This map was produced on 2/5/02 by the North Carolina Division of Water Quality Wetlands Restoration Program. Data was provided by the North Carolina Center for Geographic Information and Analysis.

The map is based on:
 Projection: Staeplane
 Zone: 4901
 Datum: NAD 83
 Spheroid: GRS 1980
 Units: Meters



Knobbs Creek, outside Elizabeth City



Agricultural Creek feeding into Knobbs Creek with evidence of nutrient inputs.

Table 5: Summary of information about Targeted Local Watersheds in Pasquotank River Basin Subbasin 03-01-50.

Targeted Local Watershed	Folly Swamp	Pasquotank River	Sawyers Creek	Areneuse Creek
County	Gates	Camden	Camden	Pasquotank
14-digit Hydrologic Unit #	03010205010010	03010205010020	03010205040010	03010205050010
Land Area (Square Miles):	6.89	238.77	14.51	116.69
Miles of Impaired Streams¹:	NA	NA	NA	NA
Possible Causes of Degradation²:	Habitat Degradation	Habitat Degradation	Habitat Degradation	Habitat Degradation
Possible Sources of Degradation²:	Hydromodification	Hydromodification	Hydromodification	Hydromodification
Cleared Land Cover:	33%	35%	70%	56%
Developed Land Cover:	0%	0%	0%	3%
Forested Land Cover:	67%	52%	25%	35%
Presence of existing Projects (NCWRP, 319, CWMTF)	No	Yes	No	Yes
<p>1 Miles of impaired streams indicates the approximate number of stream miles within the local watershed that are rated as either partially supporting (PS) or not supporting (NS).</p> <p>2 Possible causes and sources of degradation indicates either point or nonpoint source pollution. Causes and sources include: 1) Habitat degradation (a notable reduction in habitat diversity or change in habitat quality--includes sedimentation, bank erosion, channelization, lack of riparian vegetation, loss of pools or riffles, loss of woody habitat, and stream bed scour.) 2) Agriculture (row crops and animal operations-- where cattle is noted, cattle were observed on site at the time of sampling or the watershed hosts many cattle farms) 3) Non-urban development (residential and /or commercial development outside urban areas).</p>				

Subbasin 03-01-51	
<i>Area (square miles):</i>	977.9
<i>1990 Population Estimate:</i>	9,240
<i>Land Cover:</i>	
Forest/Wetland	53%
Surface Water	39%
Urban	<1%
Cultivated Crop	8%
Pasture/managed herbaceous	<1%
<i>Use Support Summary (Aquatic Life/Secondary Recreation) for estuarine area (acres):</i>	
• Fully Supporting	124,679
• Partially Supporting	0
• Not Supporting	0
• Not Rated	109,828.1

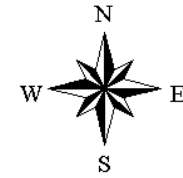
Subbasin 03-01-51 – Alligator River:

This subbasin consists of the Alligator River and its tributaries. Most waters in this subbasin are brackish estuarine, including Albemarle, Croatan and Roanoke Sounds and the Alligator River to the Intercoastal Waterway. Table 6 provides a statistical summary of the Targeted Local Watershed in this subbasin.

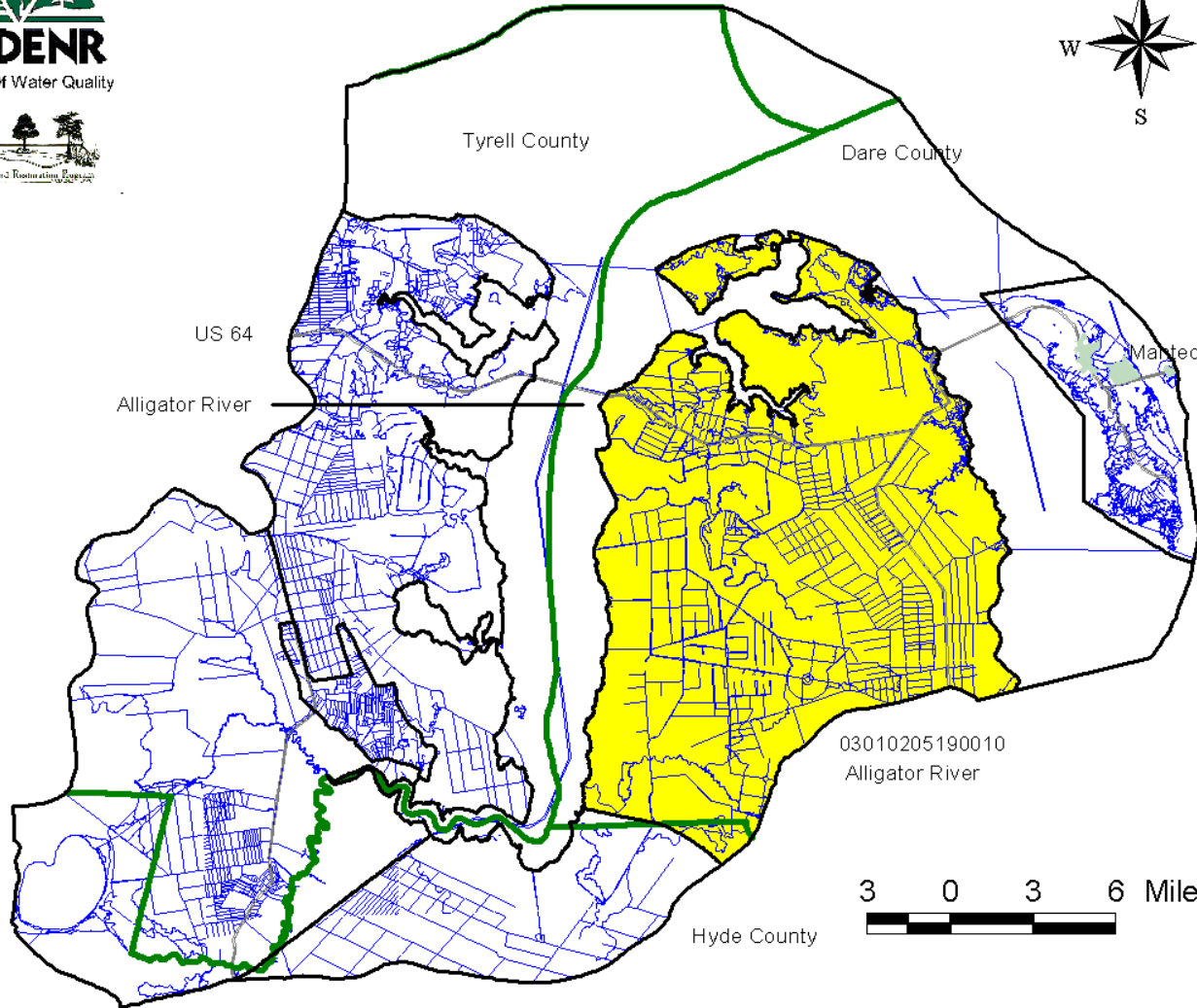
Alligator River Targeted Local Watershed 90010

Alligator River is a large brackish river flowing into the Albemarle Sound. The Alligator River National Wildlife Refuge and the Dare County Bombing Range currently protect much of this watershed. However, in the past much of this pocosin-dominated wetland was ditched to facilitate drainage, so while the watershed is protected its hydrology has been vastly altered (DCM,

1999). Alligator National Wildlife Refuge has been working to plug ditches and restore traditional water levels (personal communication, summer 2002). Nevertheless, given the extensive amount of ditching this area has experienced there are many opportunities for wetland restoration in this watershed (DCM, 1999). Additionally, Spencer Creek, south of Mann’s Harbor, is rated Not Supporting for shellfish consumption (DWQ, 2002).



**Figure 4
Pasquotank
River Basin
Subbasin 51**

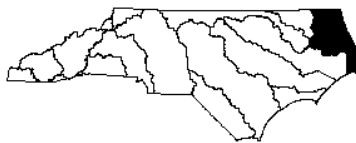


- Local Watershed Boundaries
- Targeted Local Watershed
- County Boundaries
- Municipalities
- Primary Roads
- Hydrography

03010205190010
Alligator River

3 0 3 6 Miles

Pasquotank River Basin



Subbasin 51







This map was produced on 2/5/02 by the North Carolina Division of Water Quality Wetlands Restoration Program. Data was provided by the North Carolina Center for Geographic Information and Analysis. The map is based on:
Projection: Stateplane
Zone: 4901
Datum: NAD 83
Spheroid: GRS 1980
Units: Meters

Table 6: Summary of information about Targeted Local Watersheds in Pasquotank River Basin Subbasin 03-01-51.

Targeted Local Watershed	Alligator River
County	Dare
14-digit Hydrologic Unit #	03010205190010
Land Area (Square Miles):	224.61
Miles of Impaired Streams¹:	NA
Possible Causes of Degradation²:	Habitat Degradation
Possible Sources of Degradation²:	Hydromodification
Stream on NC 2000 303(d) List³?	No
Cleared Land Cover:	3%
Developed Land Cover:	0%
Forested Land Cover:	91%
Within DWQ Water Supply Watershed⁴?	No
DWQ Designated High Quality or Outstanding Resource Water⁵?	Yes
Presence of Aquatic Natural Heritage Element⁷?	Yes
<p>1 Miles of impaired streams indicates the approximate number of stream miles within the local watershed that are rated as either partially supporting (PS) or not supporting (NS).</p> <p>2 Possible causes and sources of degradation indicates either point or nonpoint source pollution. Causes and sources include: 1) Habitat degradation (a notable reduction in habitat diversity or change in habitat quality-- includes sedimentation, bank erosion, channelization, lack of riparian vegetation, loss of pools or riffles, loss of woody habitat, and stream bed scour.) 2) Agriculture (row crops and animal operations-- where cattle is noted, cattle were observed on site at the time of sampling or the watershed hosts many cattle farms) 3) Non-urban development (residential and /or commercial development outside urban areas).</p> <p>3 Stream on 303(d) List indicates whether the Targeted Local Watershed contains waters which are on the North Carolina's 2000 303(d) List (not yet approved by the US EPA).</p> <p>4 All or part of the watershed is designated by the DWQ as a Water Supply Watershed and is subject to management strategies designed to protect surface water supply.</p> <p>5 One or more streams in the watershed is designated by the DWQ as possessing special qualities including excellent water quality, native trout, critical habitat areas, or water supplies.</p> <p>6 DWQ has assigned one or more streams in the watershed as trout waters. Trout waters are protected for natural trout propagation and survival of stocked trout.</p> <p>7 The Natural Heritage Program has identified one or more unique aquatic species or habitat in this watershed.</p>	



Figure 5
Pasquotank
River Basin
Subbasin 51
Targeted
Local Watershed
90010
Alligator River

-  Hydrography
-  Primary Roads
-  County Boundaries
-  Local Watershed Boundaries

This map was produced on 2/5/02 by the North Carolina Division of Water Quality Wetlands Restoration Program. Data was provided by the North Carolina Center for Geographic Information and Analysis. The map is based on:
 Projection: Stateplane
 Zone: 4901
 Datum: NAD 83
 Spheroid: GRS 1980
 Units: Meters

Subbasin 03-01-52	
<i>Area (square miles):</i>	541.2
<i>1990 Population Estimate:</i>	18,399
<i>Land Cover:</i>	
Forest/Wetland	32%
Surface Water	28%
Urban	<1%
Cultivated Crop	39%
Pasture/managed herbaceous	1%
<i>Use Support Summary (Aquatic Life/Secondary Recreation) for estuarine area (acres):</i>	
• Fully Supporting	72,795.5
• Partially Supporting	0
• Not Supporting	0
• Not Rated	18,924.6

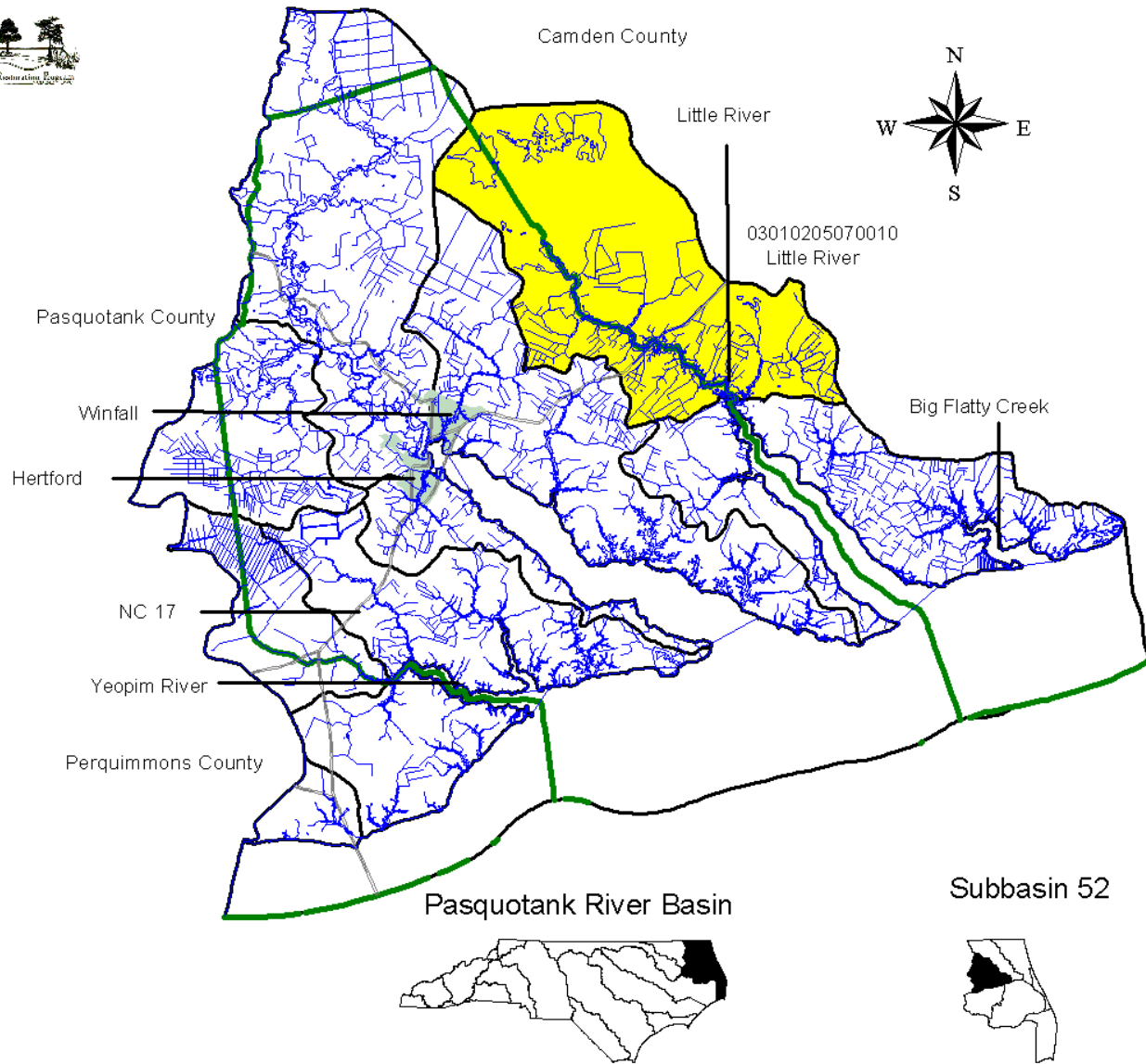
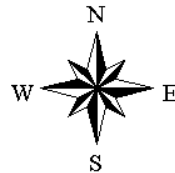
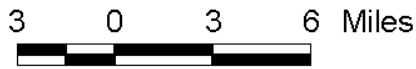
Subbasin 03-01-52 – Perquimans and Little Rivers:

This subbasin consists of the northwestern edge of the Albemarle Sound and the rivers that empty into it. The largest of these are the Little River and Perquimans River. The Perquimans River originates in the Great Dismal Swamp and flows south to the Albemarle Sound. The largest town in this subbasin is Hertford. Table 7 provides a statistical summary of the Targeted Local Watershed in this subbasin.

Little River Targeted Local Watershed 70010

This watershed has the most land devoted to agriculture of any in this subbasin (74%). The last DWQ Basinwide Water Quality Plan for the Pasquotank River Basin (1998) rated the Little River as Partially Supporting and noted low dissolved oxygen levels. The Little River is currently not rated,

but there is concern that agricultural runoff is contributing to observed algal growth and low dissolved oxygen (DWQ, 2002).



**Figure 6
Pasquotank
River Basin
Subbasin 52**

- Local Watershed Boundaries
- Targeted Local Watershed
- Primary Roads
- County Boundaries
- Municipal Boundaries
- Hydrography

This map was produced on 2/5/02 by the North Carolina Division of Water Quality Wetlands Restoration Program. Data was provided by the North Carolina Center for Geographic Information and Analysis. The map is based on:
 Projection: Stateplane
 Zone: 4901
 Datum: NAD 83
 Spheroid: GRS 1980
 Units: Meters

Table 7: Summary of information about Targeted Local Watersheds in Pasquotank River Basin Subbasin 03-01-52.

Targeted Local Watershed	Little River
County	Perquimans
14-digit Hydrologic Unit #	03010205070010
Land Area (Square Miles):	73.84
Miles of Impaired Streams ¹ :	11.8
Possible Causes of Degradation ² :	Habitat Degradation, Nutrients, Low DO
Possible Sources of Degradation ² :	Hydromodification, Agriculture
Stream on NC 2000 303(d) List ³ ?	Yes
Cleared Land Cover:	74%
Developed Land Cover:	0%
Forested Land Cover:	24%
<p>1 Miles of impaired streams indicates the approximate number of stream miles within the local watershed that are rated as either partially supporting (PS) or not supporting (NS).</p> <p>2 Possible causes and sources of degradation indicates either point or nonpoint source pollution. Causes and sources include: 1) Habitat degradation (a notable reduction in habitat diversity or change in habitat quality-- includes sedimentation, bank erosion, channelization, lack of riparian vegetation, loss of pools or riffles, loss of woody habitat, and stream bed scour.) 2) Agriculture (row crops and animal operations-- where cattle is noted, cattle were observed on site at the time of sampling or the watershed hosts many cattle farms) 3) Non-urban development (residential and /or commercial development outside urban areas).</p> <p>3 Stream on 303(d) List indicates whether the Targeted Local Watershed contains waters which are on the North Carolina's 2000 303(d) List (not yet approved by the US EPA).</p>	

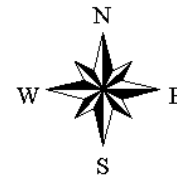
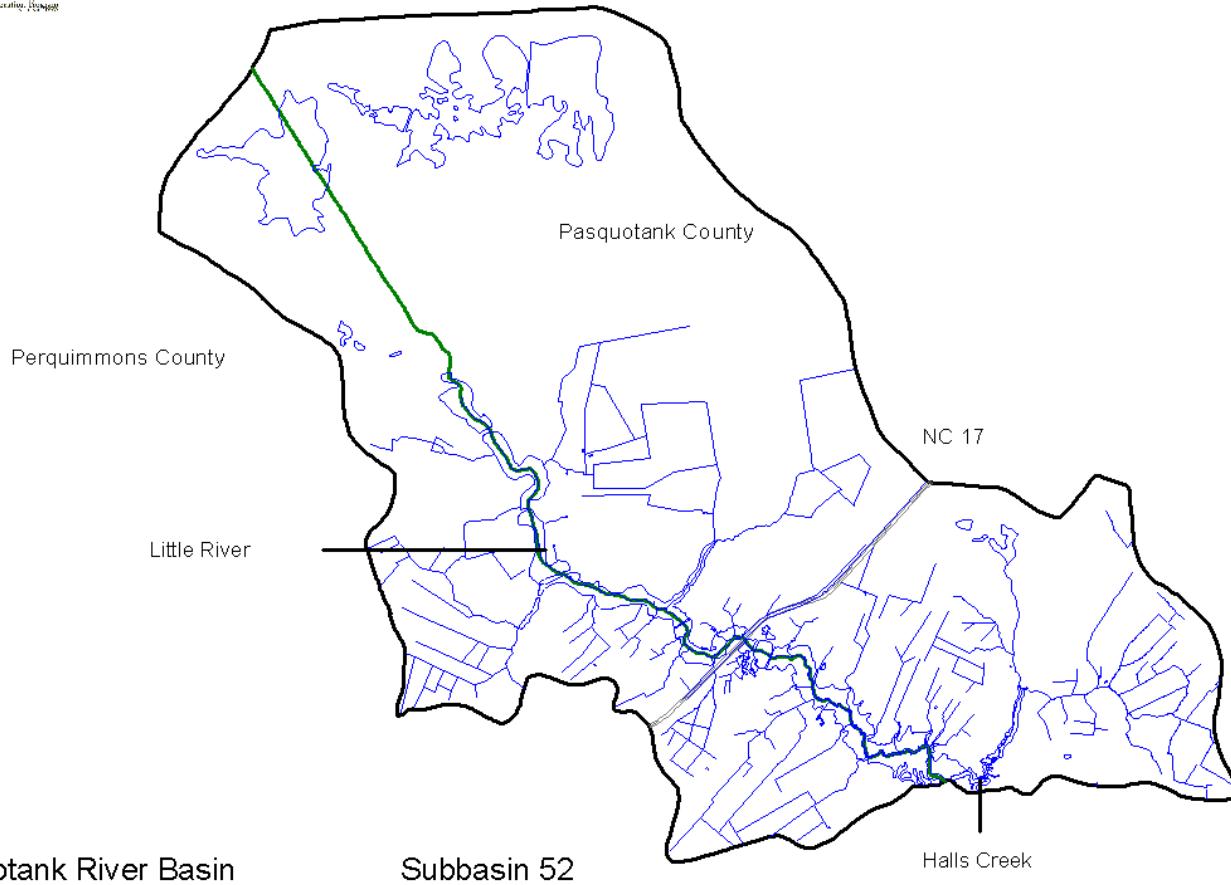
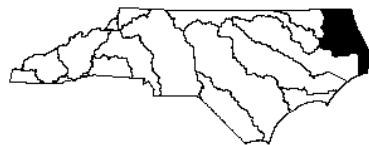


Figure 7
Pasquotank River Basin
Subbasin 52
Targeted
Local Watershed
70010
Little River



- Hydrography
- Primary Roads
- County Boundaries
- Local Watershed Boundaries

Pasquotank River Basin



Subbasin 52



Little River



This map was produced on 2/5/02 by the North Carolina Division of Water Quality Wetlands Restoration Program. Data was provided by the North Carolina Center for Geographic Information and Analysis. The map is based on:
 Projection: Stateplane
 Zone: 4901
 Datum: NAD 83
 Spheroid: GRS 1980
 Units: Meters

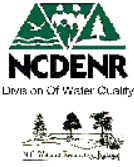
Subbasin 03-01-54	
<i>Area (square miles):</i>	503.3
<i>1990 Population Estimate:</i>	14,653
<i>Land Cover:</i>	
Forest/Wetland	39%
Surface Water	29%
Urban	<1%
Cultivated Crop	20%
Pasture/managed herbaceous	<1%
<i>Use Support Summary (Aquatic Life/Secondary Recreation) for estuarine area (acres):</i>	
• Fully Supporting	11,049.3
• Partially Supporting	0
• Not Supporting	0
• Not Rated	113,560

Subbasin 03-01-54 – Currituck Sound and North River:

This subbasin consists of the Currituck Sound and the North River and its tributaries in Currituck and Camden counties. This subbasin contains multiple public lands and Significant Natural Heritage Areas including several National Wildlife Refuges, the Currituck Banks National Estuarine Research Reserve, Northwest River and North River gamelands. Table 8 provides a statistical summary of the Targeted Local Watershed in this subbasin.

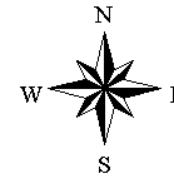
Tull Creek and Northwest River Targeted Local Watershed 2010

This watershed contains the Northwest River Gamelands -- a high quality natural area of freshwater marshland with large waterfowl populations (personal communication, Natural Heritage Program, 2002). The NC Wildlife Resources Commission has been successful in obtaining Clean Water Management Trust Fund grants to preserve some of this valuable waterfowl habitat. However, other portions of the watershed are experiencing tremendous growth coming down NC 168 from Norfolk (DWQ, 2002). Additionally, in the past this watershed experienced a great deal of ditching and wetland drainage for agriculture, so there is a great deal of stream and wetland restoration potential (DCM, 1999).

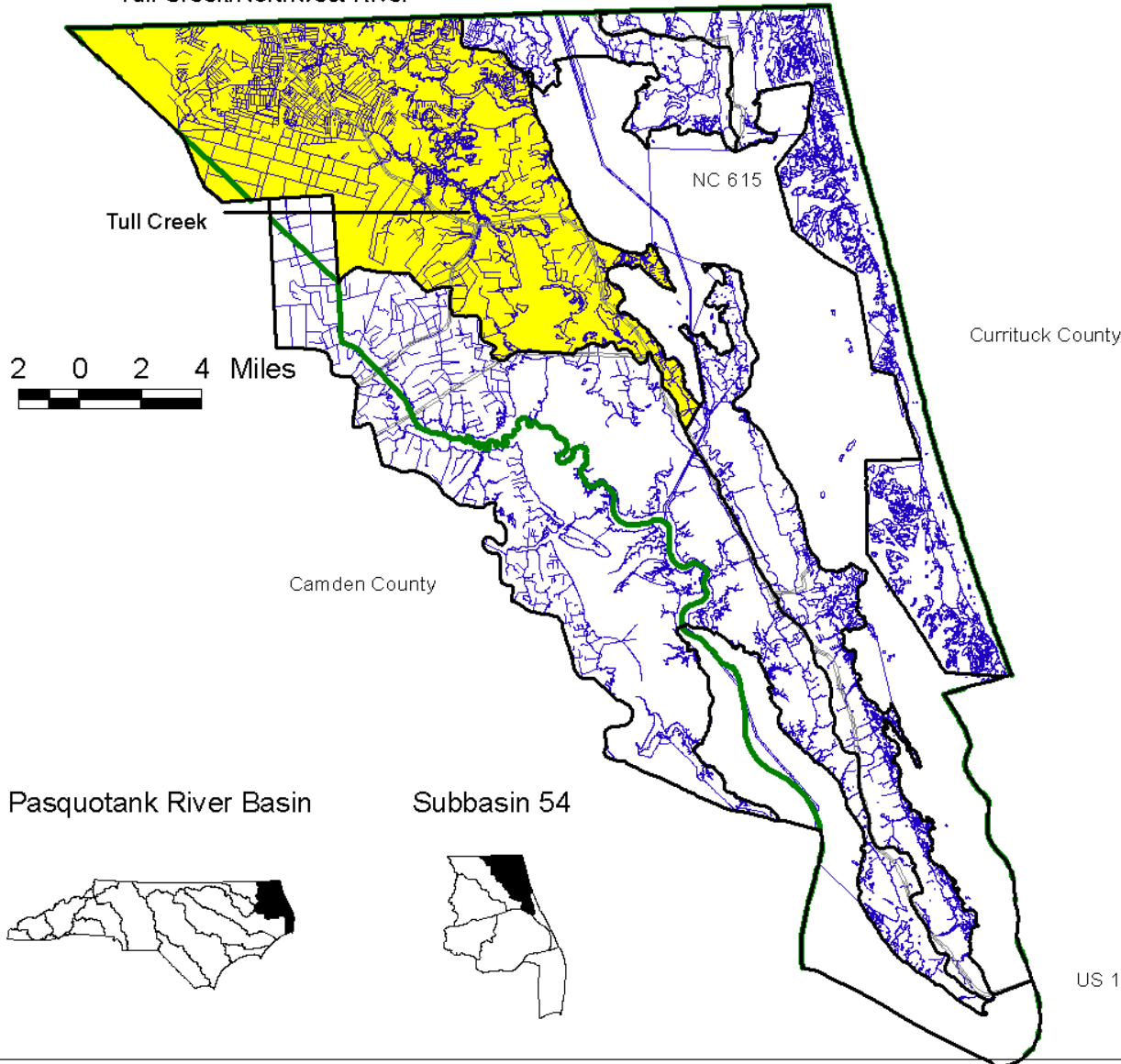


03010205020010

Tull Creek/Northwest River



**Figure 8
Pasquotank River Basin
Subbasin 54**



- Local Watershed Boundaries
- Targeted Local Watershed
- Primary Roads
- County Boundaries
- Hydrography

This map was produced on 2/5/02 by the North Carolina Division of Water Quality Wetlands Restoration Program. Data was provided by the North Carolina Center for Geographic Information and Analysis. The map is based on:
 Projection: Stateplane
 Zone: 4901
 Datum: NAD 83
 Spheroid: GRS 1980
 Units: Meters

Pasquotank River Basin

Subbasin 54



US 158

Table 8: Summary of information about Targeted Local Watersheds in Pasquotank River Basin Subbasin 03-01-54.

Targeted Local Watershed	Tull Creek/Northwest River
Counties	Camden, Currituck
14-digit Hydrologic Unit #	03010205020010
Land Area (Square Miles):	108.8
Miles of Impaired Streams¹:	NA
Possible Causes of Degradation²:	Habitat Degradation
Possible Sources of Degradation²:	Hydromodification
Stream on NC 2000 303(d) List³?	No
Cleared Land Cover:	47%
Developed Land Cover:	0%
Forested Land Cover:	44%
Presence of existing Projects (NCWRP, 319, CWMTF)	Yes
<p>1 Miles of impaired streams indicates the approximate number of stream miles within the local watershed that are rated as either partially supporting (PS) or not supporting (NS).</p> <p>2 Possible causes and sources of degradation indicates either point or nonpoint source pollution. Causes and sources include: 1) Habitat degradation (a notable reduction in habitat diversity or change in habitat quality-- includes sedimentation, bank erosion, channelization, lack of riparian vegetation, loss of pools or riffles, loss of woody habitat, and stream bed scour.) 2) Agriculture (row crops and animal operations-- where cattle is noted, cattle were observed on site at the time of sampling or the watershed hosts many cattle farms) 3) Non-urban development (residential and /or commercial development outside urban areas).</p> <p>3 Stream on 303(d) List indicates whether the Targeted Local Watershed contains waters which are on the North Carolina's 2000 303(d) List (not yet approved by the US EPA).</p>	



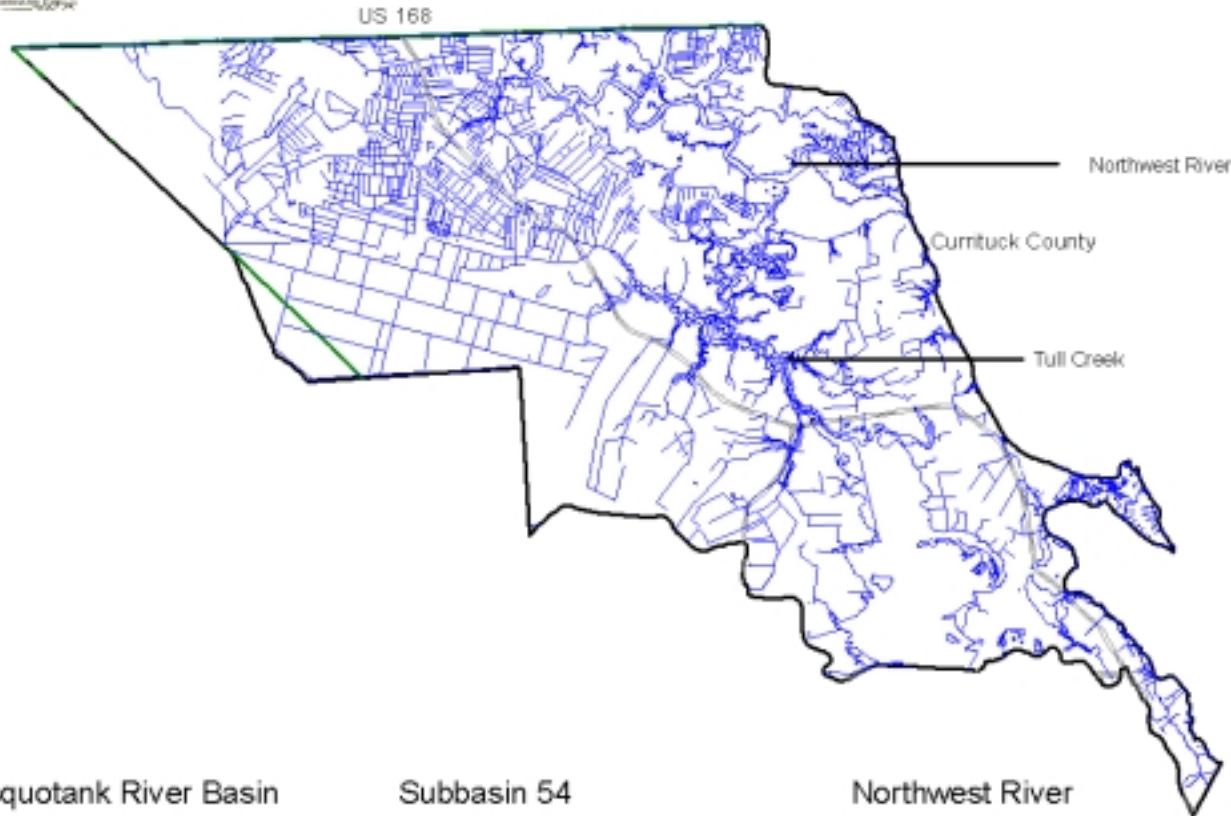
Division Of Water Quality



1 0 1 2 Miles



Figure 9
Pasquotank River Basin
Subbasin 54
Targeted
Local Watershed
2010
Northwest River/
Tull Creek



- Hydrography
- Primary Roads
- County Boundaries
- Local Watershed Boundaries

Pasquotank River Basin



Subbasin 54



Northwest River



This map was produced on 3/5/02 by the North Carolina Division of Water Quality Wetlands Restoration Program. Data was provided by the North Carolina Center for Geographic Information and Analysis.

The map is based on:
Projection: Stateplane
Zone: 4901
Datum: NAD 83
Spheroid: GRS 1980
Units: Meters

SECTION 5: CONTACT INFORMATION FOR THE PASQUOTANK RIVER BASIN

The NCWRP can implement restoration projects cooperatively with other state and federal programs as well as environmental groups. The NCWRP believes that integrating wetland or stream restoration with other projects such as livestock exclusion or stormwater management will often increase the overall water quality benefits of the project. In selecting Targeted Local Watersheds, the NCWRP considers completed and ongoing restoration efforts in the watershed to determine if there are opportunities to link NCWRP projects with these efforts through the watershed approach. Section C of the Pasquotank River Basinwide Water Quality Plan (DWQ, 2002) provides a comprehensive overview of current and future water quality initiatives and projects throughout the Pasquotank River Basin. The purpose of this section is to provide contact information for the projects and programs discussed in Section 4 of this document and for programs or initiatives underway in the Pasquotank River Basin that are potential building blocks for NCWRP project efforts.

Table 9: Contacts for Federal water quality programs and initiatives in the Pasquotank River Basin.

ORGANIZATION	CONTACT	ADDRESS	PHONE	E-MAIL / WEB SITE
Environmental Protection Agency Wetland Section	Kathy Mathews		(706) 355-8780	
Natural Resource Conservation Service	Contact the county office for contact information			www.nc.nrcs.usda.gov
Camden County		NRCS District Office 1023-5 US 17 South Elizabeth City, NC 27909	(252) 338-6353	
Currituck County		PO Box 69 Hwy 168 & Courthouse Road Currituck, NC 27929-0069	(252) 232-3360	
Chowan County		414 West Queen Street Edenton, NC 27932	(252) 482-4127	
Dare County		PO Box 1047 Manteo, NC 27954	(252) 441-1345	
Paquotank County		Beechtree Plaza, 1023-5 US 17 South Elizabeth City, NC 27909	(252) 338-6353	
Perquimans County		County Office Building 608 Edenton Road Street Hertford, NC 27944	(252) 426-5545	
Tyrell County		PO Box 162 County Office Building 103 South Water Street Columbia, NC 27925-0162	(252) 796-1963	
Washington County		128 East Water Street, Suite 202 Plymouth, NC 27962	(252) 793-4561	

Table 10: Contacts for Statewide water quality programs and initiatives in the Pasquotank River Basin.

ORGANIZATION	CONTACT	ADDRESS	PHONE	E-MAIL / WEB SITE
<i>Clean Water Management Trust Fund</i>	Damon Tatum Eastern Field Representative	505 Copley Dr. Kill Devil Hills, NC 27948	(252) 441-6672	Damon@cwmtf.net
<i>Division of Soil and Water Conservation - District Offices</i>	Contact the county office for contact information			www.enr.state.nc.us/DSWC/
Camden County		Soil & Water Conservation District Office 1023-5 US 17 South Elizabeth City, NC 27909	(252) 338-6353	
Currituck County		Soil & Water Conservation District Office PO Box 69 Currituck, NC 27929	(252) 232-3360	
Chowan County		Soil & Water Conservation District Office 414 West Queen Street Edenton, NC 27932	(252) 482-4127	
Dare County		Soil & Water Conservation District Office PO Box 1047 Manteo, NC 27954	(252) 441-1345	
Paquotank County		Soil & Water Conservation District Office Beechtree Plaza, 1023-5 US 17 South Elizabeth City, NC 27909	(252) 338-6353	
Perquimans County		Soil & Water Conservation District Office 608 Edenton Road Street Hertford, NC 27944	(252) 426-5545	
Tyrell County		Soil & Water Conservation District Office PO Box 162 103 South Water Street Columbia, NC 27925-0162	(252) 796-1963	

ORGANIZATION	CONTACT	ADDRESS	PHONE	E-MAIL / WEB SITE
Washington County		Soil & Water Conservation District Office 128 East Water Street, Suite 202 Plymoth, NC 27962	(252) 793-4561	
Division of Water Quality				www.h2o.enr.state.nc.us
Washington Regional Office	Jim Mulligan	943 Washington Square Mall Washington, NC 27889	(252) 946-6481	
Basinwide Planning Program	Jennifer Everett	1617 Mail Service Center Raleigh, NC 27699-1617	(919) 733-5083 ext 374	Jennifer.Everett@ncmail.net
Section 319 Grant Program	Sean Groom	1617 Mail Service Center Raleigh, NC 27699-1617	(919) 733-5083 ext. 582	Sean.Groom@ncmail.net h2o.enr.state.nc.us/nps/319.htm
Wetlands Restoration Program	George Norris Watershed Planner	1619 Mail Service Center Raleigh, NC 27699-1619	(919) 733-5312	George.Norris@ncmail.net h2o.enr.state.nc.us/wrp/index.htm
Albemarle-Pamlico National Estuary Program		1619 Mail Service Center Raleigh, NC 27699-1619	(252) 328-1747	http://h2o.enr.state.nc.us/nep

Table 11: Contacts for Local Water Quality Programs and Initiatives in the Pasquotank River Basin.

ORGANIZATIONS AND PROJECTS	CONTACT	ADDRESS	PHONE	E-MAIL / WEB SITE
Coastal Land Trust	Camilla Herlevich	3806-B Park Avenue, Wilmington, NC 28403	910-790-4524	www.coastallandtrust.org

References Cited

North Carolina Department of Environment and Natural Resources (DENR), Division of Water Quality. "Pasquotank River Basinwide Water Quality Management Plan." July, 2002.

– North Carolina Department of Environment and Natural Resources (DENR), Division of Water Quality. **Environmental Sciences Branch (ESB)** "Basin Assessment Report Pasquotank River Basin" January, 2002.

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North Carolina Department of Environment and Natural Resources, (DENR) Division of Parks and Recreation Natural Heritage Program "Natural Heritage Program List of the Rare Animal Species of North Carolina." 1999.

North Carolina Department of Environment and Natural Resources (DENR), Division of Parks and Recreation Natural Heritage Program. "Natural Heritage Program List of the Rare Plant Species of North Carolina." 1999.

North Carolina Wildlife Resources Commission (WRC), Division of Inland Fisheries. Draft Fisheries Management Plan for the Pasquotank River. June, 1998.

North Carolina Department of Environment and Natural Resources (DENR), Division of Coastal Management (DCM). "NC CREWS: North Carolina Coastal Region Evaluation of Wetland Significance". May, 1999.

APPENDIX 1

COMPREHENSIVE LIST OF TARGETED LOCAL WATERSHEDS IN THE PASQUOTANK RIVER BASIN

The following is a list of the local watersheds targeted by the NCWRP in the Pasquotank River Basin. Other agencies, individuals and private groups are encouraged to target their search for restoration sites within these local watersheds. The local watershed codes are the 14-digit codes that have been designated by the USDA Natural Resources Conservation Service (NRCS).

DWQ Subbasin	Watershed Name	14 Digit Hydrologic Unit
03-01-50	Folly Swamp	03010205010010
03-01-50	Pasquotank River	03010205010020
03-01-50	Sawyer's Creek	03010205040010
03-01-50	Knobs/Areneuse Creeks	03010205050010
03-01-51	Alligator River	03010205190010
03-01-52	Little River	03010205070010
03-01-54	Tull Creek/Buckskin Creek	030102005020010