

North Carolina State Wetland Program Summary



Photo Credit: North Carolina Coastal Federation

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Section A. Quick View

Description of State's Wetlands

Palustrine wetlands account for most of the wetland acreage in North Carolina. These include forested wetlands (bottom-land hardwood forests, fringe wooded swamps, wet pine flatwoods, pine savannas, and hardwood flats), wetlands that are classified as forested or scrub-shrub wetlands, depending on the characteristics of the dominant vegetation (Carolina bays, pocosins, and bogs), and emergent wetlands (nontidal and tidal fresh marshes). The total area of lacustrine and riverine wetlands in the State is not known but is small relative to the area of palustrine wetlands. North Carolina contains more than 3,000 miles of tidal (estuarine and ocean) shoreline, between 183,000-236,000 acres of salt marsh (emergent wetlands)

State Definition of Wetlands

- *Freshwater wetlands* follow the Corps' wetland definition by regulation. Wetlands are "waters of the state" (based on a 2003 State Court of Appeals decision) based on the broad language of the state statute. State regulations further define "wetlands" to be, 'waters' as defined [under waters of the state] and areas that are inundated or saturated by an accumulation of surface or ground water. . . at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.
- *Isolated wetlands*: Despite the exclusion of wetlands not subject to federal jurisdiction, North Carolina has in the past regulated "isolated wetlands," which have been defined as "those waters which are inundated or saturated by an accumulation of surface or ground water at a frequency and duration to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions and under normal circumstances have no visible surface water connection to downstream waters of the state." However, 2015 rulemaking may change this.
- *Marshlands* are defined by presence of listed species and regular tidal (wind or lunar) flow.

Historic Wetland Loss/Gain

Original Wetland Acreage	Remaining Wetland Acreage	Acreage Lost	% Lost
11,089,500	5,689,500	5,400,000	49%

Primary State Wetlands Webpages

<http://portal.ncdenr.org/web/wq/ws>

State Wetland Program Plan

North Carolina is in the process of completing a wetland program plan. This plan is being revised.

<http://portal.ncdenr.org/web/wq/swp/ws/pdu/wetland-program-plan-development>

No Net Loss/Net Gain Goal

Yes. North Carolina supports to national no net loss goal.

State Resources for Wetland Work

State Name	Core element #1: Regulation	Core Element #2: Monitoring and Assessment	Core Element #3: Wetland Water Quality Standards	Core Element #4: Voluntary Wetland Restoration
Agency	NCDENR Wetlands Branch	NCDENR	NCDENR	None
Source(s)	State appropriation, fees, federal funds, DOT funding	Information not available	Information not available	
Amount	Information not available	Information not available	Information not available	
Staffing	1 FTE supervisory, 12 FTE admin (combined 5 FTE for regulation and 7 FTE for 401 and buffer permitting), 2 FT Temps, 0.5 SW Engineering review, 1 FTE Laser fish	1 temp for NWCA intensification study; Small portion of environmental scientist field positions (not wetland-specific)	Small % of an FTE	

State Permitting Fees

State Permitting Fee	State Name
Yes/No	YES
Amount (range)	\$240-\$570 for §401 certification and isolated wetlands; no fees for buffers
Agency	NC -DENR

Innovative Features

- North Carolina created a national model for stream and wetlands mitigation through the state's Ecosystem Enhancement Program (EEP), earning recognition in 2005 and 2007 as one of the top 50 new innovative government programs in the nation by Harvard University's Kennedy School of Government, and a prestigious award in 2005 for local watershed planning from the National Association of Environmental Professionals. The initiative restores streams, wetlands, and riparian buffers where the need is greatest by working with local and state partners, including willing landowners. And NCDOT and other developers voluntarily use EEP to move projects forward in a timely and affordable manner. EEP also was named Natural Resources Agency of the Year in the 2006 Governor's Conservation Achievement Awards. For more information about the EEP go to: <http://portal.ncdenr.org/web/eep>
- Buffer and Nutrient Offset Mitigation Programs
<http://portal.ncdenr.org/web/wq/nutrientbuffermitigation>

Models and Templates

- North Carolina is currently in the process of developing an interactive, dynamic repository of water resource and natural resources information, as well as recommending actions to the Environmental Management Commission for incorporation in the basin plan. North Carolina is the only state currently developing such a system and welcome other states to use the system as a model. To view the website, go to: <http://www.ncwater.org/basins/Tar-Pamlico/index.php>
- The state's relationship with the Department of Transportation could serve as a model for other states. Please contact NCDENR for more information.

Section B. Regulation

How are Wetlands Regulated in North Carolina?

(Note: Significant changes to this section may occur after new rulemaking is completed in 2015)

North Carolina relies primarily on §401 water quality certification under the Clean Water Act (CWA) for state-level wetland regulation. Until recently, the state has implemented similar protections for isolated wetlands and waters, as well as stream buffers in selected river basins. Additional wetland provisions apply in the state's coastal counties. Through these programs (along with education, restoration, and water quality initiatives), North Carolina has sought to effectively replace unavoidable wetland losses in the state.

401 Water Quality Certifications are required for all 401 Permits issued by the Corps as well as for other Federal permits such as Federal Energy Regulatory Commission Permits. The procedures for applying for a 401 Certification in North Carolina are outlined in 15A NCAC 2H .0500 and generally follow the 404(b)(1) guidelines (avoid, minimize and then mitigate).

A permit is required from the Department of Natural Resources (DNR) for any excavation or filling of estuarine waters, marshlands, or state owned lands (North Carolina Gen. Stat. #113-229). The state has adopted a strong coastal wetland protection program as part of a broader coastal zone management effort. Protection for freshwater wetlands is provided through the Section 401 Water Quality Certification Program, riparian buffer protection programs in several nutrient-impacted river basins and the Isolated Wetland Permitting Program. State also has an in-lieu fee program (North Carolina Wetlands Restoration Program (NCWRP)) which is very active in wetland and stream mitigation.

A permit is required from the Coastal Resources Commission or a local government which is acting as a permitting authority for activities within coastal areas of "environmental concern." Estuarine waters and coastal wetlands are included in such areas of environmental concern (Coastal Area Management Act. North Carolina Gen. Stat. #113A-100 et. seq.)

The state has also adopted rules regulating the fill of isolated wetlands and isolated waters in 15A NCAC 2H .1300 based on the existing authority of the state to regulate impacts to state waters.

The state has a new directive to focus solely on bogs and basins. For more information on this emerging regulatory change, please contact NCDENR.

Wetland Delineation

Delineation Guidance	Yes	No	Detail
Use State's Own Method		X	
Use Corps' 1987 Manual and Regional Supplement	X		
Other (Please describe)		X	

Evaluation Methodology

North Carolina uses the North Carolina Wetland Assessment Method. This method is not completely implemented yet, as it has not been publicly noticed. The method addresses both quantitative and qualitative measures.

Exempted Activities

401 Certification Program: Exemptions are similar to those provided in Section 404. The §401 program also allows for the pursuit of some impacts that fall below written application thresholds as described in various §401 certifications.

Coastal Area Management Act: Dredging, filling, excavation, dumping, driving of pilings, clearing, alteration of land, construction of any structure.

Special Provisions for Agriculture and Forestry

North Carolina's exemptions are the same as the federal exemptions.

Penalties and Enforcement

The North Carolina Division of Water Quality (DWQ) has developed a thorough compliance and enforcement process for wetland standards, the 401 Certification Program, riparian buffer protection rules and Isolated Wetland Permits in consultation with the Corps. Penalties can be up to \$10,000 per day but are commonly less. Mitigation of the damage on-site (i.e. on-site restoration) is the main goal of this compliance and enforcement program. Tidal zone penalties are associated with the Coastal Area Management Act (please clarify).

Permit Tracking

A 401 Certification and Isolated Wetland Permit tracking system called the Basinwide Information Management System (BIMS) exists with data back to 1992 (best quality data since 1996). The North Carolina Division of Coastal Management (NCDCM) has a permit tracking system as well. All water resource permitting information is now on the same database.

State General Permit (statewide vs. regional coverage)

Permit Coverage	Yes	No	Detail (Type of Permit)
Regional General Permit	X		Special regional permits within Wilmington, NC
Statewide General Permit	X		A SPGP exists for tidal wetlands.

For a listing of permits, please click here:

<http://portal.ncdenr.org/web/wq/swp/ws/401/certsandpermits/gcs>

Assumption of 404 Powers

Assumption Status	Yes	No	Detail
Assumed		X	
Working Toward Assumption	~	X	However, the current NC administration is very interested in assumption. The state has put in a grant proposal for funding to explore assumption
Explored Assumption	X		Assumption was studied and the rejected.

Joint Permitting

Yes. The state shares a joint application form with the Corps. The Corps Public Notice also serves as Public Notice for the state’s 401 Certification Program. Development of joint mitigation guidance manuals has been completed for stream and wetland mitigation. Coordination of isolated wetland determinations is also in place.

Special Area Management Plans and Advanced Identification Plans

No. While the states does not have any specific SAMPs or ADIDs, the Corps/EPA is developing regional plans that look ahead at permitting.

Buffer Protections

(Note: Significant changes to this section may occur after new rulemaking is completed in 2015)

Currently, there are state riparian buffer protection programs in the Neuse River Basin, Tar-Pamlico River Basin, Catawba River Basin, Randleman Lake Watershed, Jordan Lake Watershed and Goose Creek Watershed. There are also local buffer protection programs across the state. However, this is likely to change with new rulemaking that will take place in 2015. It is likely that protections will be more limited in the future.

A buffer authorization, or a “no practical alternatives” determination, is required for any use that is designated as “(potentially) allowable” or “(potentially) allowable with mitigation” within the applicable buffer rule. The riparian buffer must be undisturbed, regardless of property size or type of land use. Within each set of buffer rules*, there is a Table of Uses for specific activities:

- Exempt uses are allowed in the riparian buffer without approval from the Division of Water Resources (DWR).
- (Potentially) allowable uses may occur in the buffer after written authorization from DWR (some of these impacts may require mitigation for the impacts).
- Prohibited uses are not allowed in the buffer unless a variance is granted from the N.C. Environmental Management Commission.
- Activities not listed in the Table of Uses are prohibited

For more information about specific buffer rules, please go to:

http://portal.ncdenr.org/web/wq/swp/ws/401/riparianbuffers/faqs#Where_are_riparian_buffer_protection_programs; Templates and guidance documents can be found at:

<http://portal.ncdenr.org/web/wq/nutrientbuffertemplates>

Mitigation Policy

North Carolina has initiated an integrated mitigation and in-lieu-fee program with a watershed focus. A Mitigation policy (no net loss) is in place for 401 Certification and Isolated Wetland Permitting Programs. Mitigation is required for both riparian buffers (see above) and nutrient offset. *Nutrient Offset Mitigation* may be required for any new or existing development where nutrient reduction requirements exist as part of a nutrient management strategy. In North Carolina, there are four nutrient management strategies: Neuse River Basin, Tar-Pamlico River Basin, Falls Lake Watershed and Jordan Lake Watershed. *The N.C. Ecosystem Enhancement Program* provides cost-effective mitigation alternatives that improve the state's water resources using the plan (<http://portal.ncdenr.org/web/EEP>)

Mitigation Database

Losses are tracked in the BIMS database (which includes data on 401 Certification). The Ecosystem Enhancement Program (EEP) prepares an annual report accounting for losses and gains in both the regulatory and non-regulatory programs.

Section C. Monitoring and Assessment

Agency Responsible for Wetland Monitoring and Assessment

The state does not have a formal, ongoing wetland monitoring program. The Bureau of Water Resources has a wetland monitoring program aimed at addressing wetland status and trends on an annual basis by building off the NCDRCM's efforts, state reports wetland status and trends in the 303(b) reports to EPA. The state has actively participated in the NWCA under EPA grants, though.

Mapping/Inventory

The NCDRCM has completed an extensive wetland mapping effort of the entire coastal plain based on NWI maps, hydric soils and land use/land cover data. The state also distributes the National Wetland Inventory (NWI) maps which are available electronically for the state. However, some areas do not have NWI maps. DWQ and DOT have collaborated to map stream locations to supplement the U.S. Geological Survey topographic map data layer.

This is a link to an Impaired Waters map that the branch has also developed: <http://ncdenr.maps.arcgis.com/apps/webappviewer/index.html?id=dcb44280272e4ac49d9a86b999939fec>

State Wetland Mapping Public Portal

North Carolina DENR is in the process of developing an interactive, dynamic repository of water resource and natural resources information, as well as recommending actions to the Environmental Management Commission for incorporation in the basin plan. Staff are compiling several monitoring databases into one enterprise database that will be used to develop more dynamic Basinwide Water Resource Plans. Individual databases will be standardized so that large portions of the data can be analyzed and placed automatically into the basin plans, allowing planners significantly more time to evaluate the final analysis and plan for the future. North Carolina is the only state currently developing such a system. To view the website, go to: <http://www.ncwater.org/basins/Tar-Pamlico/index.php>

Wetland Classification and Assessment

Under Section 401 Certification, the state classifies wetlands as wetlands with significant uses versus those with non-significant uses. In addition, NCDWM has a wetland mapping process that determines wetland functions in the coastal plain of North Carolina and other parts of the state.

The state uses a rapid assessment tool called the *North Carolina Wetland Assessment Method* for project planning, alternatives analysis, compliance and enforcement, mitigation planning, and tracking functional replacement: <http://portal.ncdenr.org/web/wq/swp/ws/pdu/ncwam-manual>

Statewide Wetland Monitoring Plan

North Carolina Wetland Program Plan – Monitoring and Assessment (2013)
http://portal.ncdenr.org/c/document_library/get_file?uuid=8025b6cd-d94f-4c7a-bd8a-50ec4b0025cd&groupId=38364

Overall Wetland Gain and Loss Tracking System

North Carolina does not have an overall tracking system. BWR tracking is limited to what is learned through permitting processes that trigger written applications. A significant amount of cumulative impact is not being tracked currently.

Wetland Monitoring and Assessment Characteristics

Level	None	Level 1	Level 2	Level 3
<i>North Carolina</i>		X	X	X

Type	None	IBI	Condition	Functional
<i>North Carolina</i>		X	X	X

Frequency	None	Project Specific	Ongoing
<i>North Carolina</i>		X (NWCA Intensification)	X (if grants continue)

Participation in National Wetland Condition Assessment

NWCA Study Type	Yes	No
National Study	X	
State Intensification Study	X	

Detail: North Carolina participated in a 2011 NWCA State Intensification Study.

Section D. Water Quality Standards

Wetland and Water Quality Standards

Type	None	Use Existing WQ Standards	In Process	Adopted	Future Direction
Wetland-specific Designated Uses				X	
Narrative criteria in the standards to protect designated wetland uses				X	
Numeric criteria in the standards based on wetland type and location to protect the designated uses		X			
Anti-degradation policy includes wetlands				X	

Description: Wetland designated uses are provided in 15A NCAC 2B .0231 and exemptions to those standards provided in 15A NCAC 2B .0230. Narrative criteria for wetlands are provided in 15A NCAC 2B .0231 and exemptions to those standards provided in 15A NCAC 2B .0230. The state applies the state’s existing numeric water quality standards that are not specific to wetlands as appropriate. The state’s anti-degradation policy (15A NCAC 2B .0201) explicitly applies to wetlands except when a 401 Certification or Isolated Wetland Permit has been issued. Detail of wetland water quality standards can be downloaded from: <http://reports.oah.state.nc.us/ncac/title%2015a%20-%20environment%20and%20natural%20resources/chapter%2002%20-%20environmental%20management/subchapter%20b/15a%20ncac%2002b%20.0231.pdf>

Section E. Voluntary Wetland Restoration

North Carolina does not have a state-run voluntary wetland restoration program.

Types of Wetland Restoration Work Funded by the State:

Type of Work	YES	NO	Description
Fund Wetland Restoration (may include easement agreements)		X	
Private Land Restoration		X	
Public Land Restoration		X	
Technical Assistance		X	
Tax Incentives		X	

Other		X	
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Voluntary Wetland Restoration Program Components

Wetland Restoration Efforts	Nothing in the Works	Planning	In Progress	Mature/Complete
Program has a set of restoration goals	N/A			
Coordinate with relevant agencies that outline restoration/protection goals and strategies and timeframes	N/A			
Developed multi-agency body to coordinate restoration/protection efforts	N/A			
Set restoration goals based on agency objectives and available information	N/A			

Goals for Restoration Projects*

Goal	Yes	No	Description
No Net Loss	N/A		
Reverse Loss/Net Gain	N/A		
Nonpoint Source Pollution (NPS)/WQ	N/A		
Total Maximum Daily Load (TMDLs)	N/A		
Habitat	N/A		
Coastal Protection	N/A		
Floodwater Protection	N/A		
Groundwater	N/A		
Other (please describe)	N/A		

Landowner Guides and Handbooks to Assist with Voluntary Wetland Restoration Efforts

None.

Section F. Innovative and/or Highly Effective Education and Outreach

None.

Section G. Climate Change and Wetlands

North Carolina’s wetland program is not currently working on climate change issues. The state’s laws outlaws planning for sea level rise and disallow planning more than thirty years into the future. In 2010, there was a joint declaration by government departments in the state (incl. commerce, transportation, agriculture and DENR that sea level was occurring):

<http://dcm2.enr.state.nc.us/news/2010%20Releases/slrreport.html>. This report was not initially

published. However, in 2015, the report and an addendum was published stating that the broad recommendations of the original report stand: http://portal.ncdenr.org/c/document_library/get_file?uuid=8df8d65f-215b-46e1-ab68-fbf5ac82fa5c&groupId=38319. The state has documented issues with sea level rise on the Outer Banks. Additionally, nutrient-related side effects exist that could be attributed to climate change.

Section H. Integration

Entity/Program Area	Yes/No	Description of the Connection
NPDES/Stormwater	NO	The stowmater program has recently been moved from WQ/R to Energy and Mineral Resources
303(d)	Unknown	
305(b) reporting on wetlands	YES (Limited)	Ask for limited data
Total Maximum Daily Load (TMDLs)	NO	
Climate Change/ Resiliency	NO	
Land Use /Watershed planning	YES	Watershed planning, but not with the regulatory program
Flood/Hazard Mitigation	NO	
Coastal Work	YES	The wetland program has a very active working relationship with the Coastal Program
Wildlife Action Plan	NO	
Statewide Comprehensive Outdoor Recreation Plan (SCORP)	NO	
Other – Transportation	YES	The Wetland Program works regularly with NCDOT

State Wetland Program Continuum

Continuum Stage	Core Element 1: Regulation	Core Element 2: Monitoring & Assessment	Core Element 3: Wetland Water Quality Standards	Core Element 4: Voluntary Restoration
Mature Stage	X*			
Initial Implementation Stage		X		
Development Stage			X	
Early Stage				X

* Currently, North Carolina has a strong regulatory program consisting of §401 certification, as well as isolated wetland permitting, general certification and a buffer program. However, some of these protections may be lost in the coming years.

Section I. Contact Information

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Section J. Useful Websites

State Government Programs

1. Department of Environment & Natural Resources
 - a) Division of Water Quality: Wetlands & Stormwater Branch
<http://portal.ncdenr.org/web/wq/ws>
 - i. Wetlands, Buffers, Stormwater Compliance and Permitting Unit
<http://portal.ncdenr.org/web/wq/swp/ws/webscape>
 - ii. Stormwater Permitting Unit
<http://portal.ncdenr.org/web/wq/ws/su>
 - iii. Transportation Permitting Unit

The Transportation Permitting Unit works with the N.C. Department of Transportation (NCDOT) to assist with the planning, permitting and design of projects. Their goal is to provide needed infrastructure for citizens while ensuring the continued of protection North Carolina's water quality.

The unit's responsibilities include the review of NCDOT's 401 certification applications and wetland and stream mitigation plans, as well as conducting relevant NCDOT site visits. Unit staff represent the Division of Water Quality on the 404/NEPA Merger Team. The unit also includes staff that are associated with special projects, such as the Headwater Stream Spatial Dataset and Watershed Assessment Team.

<http://portal.ncdenr.org/web/wq/ws/tpu>

- iv. Program Development Unit
 - <http://portal.ncdenr.org/web/wq/swp/ws/pdu>
 - Wetland Assessment Method
 - <http://portal.ncdenr.org/web/wq/swp/ws/pdu/ncwam>
- b) Division of Coastal Management
 - <http://portal.ncdenr.org/web/cm/dcm-home>
 - i. Permits & Enforcement
 - <http://portal.ncdenr.org/web/cm/permits-and-enforcement>
 - ii. Maps & Data
 - <http://portal.ncdenr.org/web/cm/maps-and-data>
 - iii. Coastal Resources Commission
 - <http://portal.ncdenr.org/web/cm/coastal-resources-commission>
 - iv. Land Use Planning/Beach Access
 - <http://portal.ncdenr.org/web/cm/land-use-planning/-beach-access>
 - v. Wetlands Conservation Plan
 - <http://www.nccoastalmanagement.net/Wetlands/conserve.htm>
 - vi. Wetlands Inventory & Assessment
 - <http://www.nccoastalmanagement.net/Wetlands/inventory.htm>
 - vii. Wetlands Restoration
 - <http://www.nccoastalmanagement.net/Wetlands/restore.htm>
 - c) [North Carolina Ecosystem Enhancement Program](http://portal.ncdenr.org/web/eeep)
 - <http://portal.ncdenr.org/web/eeep>
 - d) Parks & Recreation Division
 - i. Natural Resources Program
 - http://www.ncparks.gov/About/natural_resources_main.php
 - e) Department of Transportation
 - i. Environmental Excellence Program
 - <http://www.ncdot.gov/programs/environment/>
 - http://www.environment.fhwa.dot.gov/ecosystems/greenerroadsides/gr_summer01p15.asp
 - f) Wildlife Resources Commission

- i. Habitat Conservation
<http://www.ncwildlife.org/Conserving/Habitats.aspx>
2. [Department of Agriculture & Consumer Services](#)
 - a) [Division of Soil & Water Conservation](#)
 - i. [Watershed Initiatives](#)
<http://www.ncagr.gov/SWC/watershed/index.html>

Federal Government Programs

1. USDA Natural Resources Conservation Service
Wetlands Reserve Program
<http://www.nc.nrcs.usda.gov/programs/WRP/>

Other Organization Wetland Programs

1. Coastal Reserve & National Estuarine Research Reserve
<http://www.nccoastalreserve.net/>
2. North Carolina Coastal Federation
<http://www.nccoast.org/content.aspx?key=60c67361-470c-45ea-8670-4bec4042adf2>
3. North Carolina Wildlife Resources Commission
Habitat Conservation Program
<http://www.ncwildlife.org/Conserving/Programs/HabitatConservationProgram/UsefulWebsitesforStreamandWetlandRestoration.aspx>
4. Clean Water Management Trust Fund
<http://www.cwmtf.net/>
5. North Carolina State University Water Quality Group
<http://www.bae.ncsu.edu/programs/extension/wqg/>
6. North Carolina Stream Restoration Institute
<http://www.bae.ncsu.edu/programs/extension/wqg/sri/RCinfo.htm>
7. North Carolina Wetlands Partnership
<http://dcm2.enr.state.nc.us/ncwp/index.htm>