

SURFACE FRESHWATER CLASSIFICATIONS USED IN NORTH CAROLINA

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WHAT ARE SURFACE WATER CLASSIFICATIONS?

Surface Water Classifications are designations applied to surface water bodies, such as streams, rivers and lakes, which define the best uses to be protected within these waters (for example swimming, fishing, drinking water supply). Each classification has an associated set of water quality standards to protect those uses. Surface water classifications are one tool that state and federal agencies use to manage and protect all streams, rivers, lakes, and other surface waters in North Carolina. Classifications and their associated protection rules may be designed to protect water quality, fish and wildlife, the free flowing nature of a stream or river, or other special characteristics.

HOW DO CLASSIFICATIONS AFFECT ME?

Before you buy property, plan a new development project, construct a new road or undertake other land use activities, you should check with local, state and federal agencies about the assigned surface water classification for the waterbody on your property. Many classifications, especially those designed to protect drinking water supplies and certain high quality waters, have protection rules which may affect land use and other activities.

WHY DO THEY SOMETIMES OVERLAP?

Many streams, rivers and lakes may have several classifications applied to the same area. This is because surface waters are classified to protect different uses or special characteristics of the waterbody. For example, a stream or specific stream segment may be classified as Class WS-III Tr HQW by the NC Division of Water Quality (DWQ). This protects it as a drinking water supply (WS-III), as Trout Waters (Tr) and as High Quality Waters (HQW). The stream segments upstream or downstream may have different classifications based on other water uses or stream characteristics.

HOW DO I DETERMINE MY STREAM'S CLASSIFICATION?

DWQ classifies all surface waters. Use the classification search capabilities at <http://h2o.enr.state.nc.us/bims/Reports/reports.html>. You can also call DWQ in Raleigh, (919) 807-6412, or any of our regional offices. Contact other agencies listed in this brochure for any of their classifications which may apply.

HOW CAN THIS BROCHURE HELP ME?

This brochure provides an overview of the various surface freshwater classifications used in North Carolina and their effect on different land uses or other human activities. It is based on the classifications and their associated rules as of March 2009. Classifications and their rules are regularly updated and revised, so check with the appropriate agencies before starting any project.

The rules presented in this document are based on the minimum protection rules of state and federal agencies. Local governments, in most cases, can adopt more stringent land use or water resource protection requirements. Check with local government agencies that have jurisdiction over your land for local rules and procedures that may apply.

WHERE CAN I GET MORE INFORMATION?

More detailed information is available from the Division of Water Quality's (or DWQ's) Planning Section, 1617 Mail Service Center, Raleigh, N.C. 27699-1617, (919) 807-6412, or 807-6305. Additional information, including stream classifications, may be obtained on DWQ's website at: <http://h2o.enr.state.nc.us>.

A Guide to
Surface Freshwater Classifications
 in North Carolina
2009
 NC Department of Environment and Natural Resources
 Division of Water Quality

DWQ CENTRAL AND REGIONAL OFFICES (R.O.)

<p>Central Office DENR - Division of Water Quality 1617 Mail Service Center, Raleigh NC 27699-1617 Courier: 52-01-00 T: (919) 807-6300; F: (919) 807-6492</p>

Asheville Regional Office (ARO)
 Roger Edwards, Surface Water Protection Supervisor
 Landon Davidson, Aquifer Protection Supervisor
 2090 US Highway 70, Swannanoa, NC 28778
 Courier: 12-59-01; T: (828) 296-4500; F: (828) 299-7043

Avery	Haywood	Polk
Buncombe	Henderson	Rutherford
Burke	Jackson	Swain
Caldwell	Macon	Transylvania
Cherokee	Madison	Yancey
Clay	McDowell	
Graham	Mitchell	

Mooreville Regional Office (MRO)
 Rob Krebs, Surface Water Protection Supervisor
 Andrew Pitner, Aquifer Protection Supervisor
 610 East Center Avenue / Suite 301
 Mooresville, NC 28115
 Courier: 09-08-06; T: (704) 663-1699; F: (704) 663-6040

Alexander	Gaston	Rowan
Cabarrus	Iredell	Stanly
Catawba	Lincoln	Union
Cleveland	Mecklenburg	

Washington Regional Office (WaRO)
 Al Hodge, Surface Water Protection Supervisor
 David May, Aquifer Protection Supervisor
 943 Washington Square Mall
 Washington, NC 27889
 Courier: 16-04-01; T: (252) 946-6481
 F: (252) 946-9215; F: (252) 975-3716

Beaufort	Gates	Pamlico
Bertie	Greene	Pasquotank
Camden	Hertford	Perquimans
Chowan	Hyde	Pitt
Craven	Jones	Tyrrell
Currituck	Lenoir	Washington
Dare	Martin	Wayne

Fayetteville Regional Office (FRO)
 Belinda Henson, Surface Water Protection Supervisor
 Art Barnhardt, Aquifer Protection Supervisor
 225 Green Street, Systel Building Suite 714
 Fayetteville, NC 28301-5043
 Courier: 14-56-25; T: (910) 433-3300; F: (910) 486-0707

Anson	Hoke	Robeson
Bladen	Montgomery	Sampson
Cumberland	Moore	Scotland
Hamett	Richmond	

Wilmington Regional Office (WiRO)
 Rick Shiver, Surface Water Protection Supervisor
 Charlie Stehman, Aquifer Protection Supervisor
 127 Cardinal Drive Extension, Wilmington, NC 28405-2845
 Courier: 04-16-33; T: (910) 796-7215; F: (910) 350-2004

Brunswick	Duplin	Onslow
Carteret	New	Pender
Columbus	Hanover	

Raleigh Regional Office (RRO)
 Danny Smith, Surface Water Protection Supervisor
 Jay Zimmerman, Aquifer Protection Supervisor
 3800 Barrett Drive, Raleigh, NC 27609
 Courier: 52-01-00; T: (919) 791-4200; F: (919) 571-4718

Chatham	Johnston	Vance
Durham	Lee	Wake
Edgecombe	Nash	Warren
Franklin	Northampton	Wilson
Granville	Orange	
Halifax	Person	

Winston-Salem Regional Office (WSRO)
 Steve Tedder, Surface Water Protection Supervisor
 Sherri Knight, Aquifer Protection Supervisor
 585 Woughtown Street, Winston-Salem, NC 27107
 Courier: 13-15-01; T: (336) 771-5000; F: (336) 771-4631

Alamance	Davie	Stokes
Alleghany	Forsyth	Surry
Ashe	Guilford	Watauga
Caswell	Randolph	Wilkes
Davidson	Rockingham	Yadkin

*DWQ PRIMARY CLASSIFICATIONS

The Division of Water Quality (DWQ) assigns to each surface water in North Carolina a primary classification. All waters must meet the standards for Class C (fishable/swimmable) waters. The other primary classifications provide additional levels of protection for primary water contact recreation (Class B) and drinking water (Water Supply Class I through V).

Class C

Waters protected for secondary recreation, fishing, wildlife, fish consumption, aquatic life including propagation, survival, and maintenance of biological integrity, agriculture and other uses suitable for Class C. Secondary recreation includes wading, boating, and other uses involving human body contact with water where such activities take place in an infrequent, unorganized or incidental manner.

Water Supply I (WS-I)

Waters used as sources of water supply for drinking, culinary, or food processing purposes where a WS-I classification is not feasible. Waters used as sources of water supply for drinking, culinary, or food processing purposes where a WS-I classification is not feasible. These waters are generally in predominantly undeveloped watersheds. All WS-I waters are HQW by supplemental classification.

Water Supply II (WS-II)

Waters used as sources of water supply for drinking, culinary, or food processing purposes where a WS-I classification is not feasible. These waters are also protected for Class C uses. WS-II waters are generally in predominantly undeveloped watersheds. All WS-II waters are HQW by supplemental classification.

Water Supply III (WS-III)

Waters used as sources of water supply for drinking, culinary, or food processing purposes where a more protective WS-I or WS-II classification is not feasible. These waters are also protected for Class C uses. WS-III waters are typically in low to moderately developed watersheds.

*Two primary classifications (WL=Freshwater Wetlands and SWL=Saltwater Wetlands) are not discussed in this document because no water bodies currently carry these designations.

*DWQ SUPPLEMENTAL CLASSIFICATIONS

Supplemental classifications are sometimes added by DWQ to the primary classifications to provide additional protection to waters with special uses or values.

Class B

Waters used for primary recreation and other uses suitable for Class C. Primary recreational activities include swimming, skin diving, water skiing, and similar uses involving human body contact with water where such activities take place in an organized manner or on a frequent basis.

Water Supply V (WS-V)

Waters protected as water supplies which are generally upstream and draining to Class WS-IV waters or waters used by industry to supply their employees with drinking water or as waters formerly used for public water supply. These waters are also protected for Class C uses.

Nutrient Sensitive Waters (NSW)

Supplemental classification intended for waters needing additional nutrient management due to their being subject to excessive growth of microscopic or macroscopic vegetation.

Trout Waters (Tr)

Supplemental classification intended to protect freshwaterers for natural trout propagation and survival of stocked trout on a year round basis. This is not the same as the N.C. Wildlife Resources Commission's Designated Public Mountain Trout Waters (see end of this section).

Swamp Waters (Sw)

Supplemental classification intended to recognize those waters which are topographically located so as to generally have low velocities and other natural characteristics which are different from adjacent streams draining land with steeper topography.

Outstanding Resource Waters (ORW)

Supplemental classification intended to protect unique and special waters having excellent water quality and being of exceptional state or national ecological or recreational significance. To qualify, waters must be rated Excellent by DWQ, and have one of the following outstanding resource values:

1. Outstanding fish habitat or fisheries.
2. Unusually high level of water based recreation or potential for such kind of recreation.
3. Some special designation such as N.C. Scenic/Natural River, or National Wildlife Refuge.
4. Important component of state or national park.
5. Special ecological or scientific significance (rare or endangered species habitat, research or educational areas.)

High Quality Waters (HQW)

Supplemental classification intended to protect waters for which DWQ has received a petition for reclassification to either WS-I or WS-II.

1. WS-I.
2. WS-II.
3. SA (commercial shellfish).
4. ORW.
5. Primary Nursery Areas designated by Marine Fisheries Commission.
6. Waters for which DWQ has received a petition for reclassification to either WS-I or WS-II.

NC Natural and Scenic Rivers

A state government river designation intended to protect certain free flowing rivers or segments with outstanding natural, scenic, educational, recreational, geological, fish and wildlife, historic, scientific or other cultural values. There are three river classifications: Natural, Scenic and Recreational river areas. This classification is administered by the NC Division of Parks and Recreation.

Federal Wild and Scenic Rivers

A federal government river designation intended to protect certain free flowing rivers or segments with outstanding scenic, recreational, geological, fish and wildlife, historic, archaeological or other values. There are three river classifications: Wild, Scenic and Recreational river areas.

Unique Wetland (UWL)

Supplemental classification for wetlands of exceptional state or national ecological significance. These wetlands may include primary nursery areas designated by the Marine Fisheries Commission, and other functional the conservation of state or federally listed threatened or endangered species.



All ORWs are HQW by supplemental classification. (rare or endangered species habitat, research or educational areas.)

5. Special ecological or scientific significance (rare or endangered species habitat, research or educational areas.)
4. Important component of state or national park.
3. Some special designation such as N.C. Scenic/Natural River, or National Wildlife Refuge.
2. Unusually high level of water based recreation or potential for such kind of recreation.
1. Outstanding fish habitat or fisheries.

Designated Public Mountain Trout Waters

A state fishery management designation administered by the N.C. Wildlife Resources Commission, which provides for public access to streams for fishing and public lands. It regulates fishing activities only (seasons, size limits, creel limits, and bait and lure restrictions) and is not the same classification as the DWQ classification which protects water quality.

NC Natural and Scenic Rivers

A state government river designation intended to protect certain free flowing rivers or segments with outstanding natural, scenic, educational, recreational, geological, fish and wildlife, historic, scientific or other cultural values. There are three river classifications: Natural, Scenic and Recreational river areas. This classification is administered by the NC Division of Parks and Recreation.

Federal Wild and Scenic Rivers

A federal government river designation intended to protect certain free flowing rivers or segments with outstanding scenic, recreational, geological, fish and wildlife, historic, archaeological or other values. There are three river classifications: Wild, Scenic and Recreational river areas.

OTHER AGENCY CLASSIFICATIONS

Supplemental classification for wetlands of exceptional state or national ecological significance. These wetlands may include primary nursery areas designated by the Marine Fisheries Commission, and other functional the conservation of state or federally listed threatened or endangered species.

GUIDE TO SURFACE FRESHWATER CLASSIFICATIONS IN NORTH CAROLINA

NC Department of Environment and Natural Resources – Division of Water Quality – 2009

Surface Freshwater Classifications	AREA AFFECTED	WASTEWATER DISCHARGES ALLOWED ⁷	DEVELOPMENT ACTIVITIES			EROSION & SEDIMENTATION CONTROLS ¹⁵	AGRICULTURE BEST MANAGEMENT PRACTICES MANDATED ¹⁶	FORESTRY BEST MANAGEMENT PRACTICES MANDATED ¹⁹	TRANSPORTATION BEST MANAGEMENT PRACTICES MANDATED	LANDFILLS ALLOWED	DAMS/ WATER RESOURCE PROJECTS
			ALLOWABLE DENSITY								
			LOW DENSITY OPTION (DU = DWELLING UNIT) (AC = ACRE)	HIGH DENSITY OPTION ¹²	STREAM BUFFERS ^{13, 14}						
DWQ Primary Classifications											
WATER SUPPLY - I (WS-I) ¹	entire water supply watershed	none allowed	none -- undeveloped	none -- undeveloped	N.A.	more stringent rules apply	yes ¹⁷	yes	stricter NC Div. of Land Resources erosion controls apply 20	none allowed	no specific restrictions
WATER SUPPLY - II (WS-II) ¹	1/2 mile critical area ³	general permits ⁸	1 du / 2 ac or 6% built upon area	6-24% built upon area	low density - 30' high density - 100'	more stringent rules apply	yes ¹⁷	yes	stricter NC Div. of Land Resources erosion controls apply 20	no new landfills	no specific restrictions
	rest of watershed	general permits ⁸	1 du / 1 ac or 12% built upon area	12-30% built upon area	low density - 30' high density - 100'	more stringent rules apply	yes	yes	stricter NC Div. of Land Resources erosion controls apply 20	no new discharging landfills ²¹	no specific restrictions
WATER SUPPLY - III (WS-III) ¹	1/2 mile critical area ³	general permits ⁸	1 du / 1 ac or 12% built upon area	12-30% built upon area	low density - 30' high density - 100'	standard rules	yes ¹⁷	yes	yes ²⁰	no new landfills	no specific restrictions
	rest of watershed	domestic & non-process industrial	1 du / 1/2 ac or 24% built upon area	24-50% built upon area	low density - 30' high density - 100'	standard rules	yes	yes	yes ²⁰	no new discharging landfills ²¹	no specific restrictions
WATER SUPPLY - IV (WS-IV) ¹	1/2 mile critical area ³	domestic and industrial ⁹	1 du / 1/2 ac or 24% built upon area ¹⁰	24-50% built upon area ¹⁰	low density - 30' high density - 100'	standard rules	yes ¹⁷	yes	yes ²⁰	no new landfills	no specific restrictions
	protected area ⁴	domestic and industrial	1 du / 1/2 ac or 24% built upon area ^{10, 11}	24-70% built upon area ^{10, 11}	low density - 30' high density - 100'	standard rules	yes	yes	yes ²⁰	no specific restrictions	no specific restrictions
WATER SUPPLY - V (WS-V) ¹	river segment	domestic and industrial	no restrictions		none required	standard rules	yes	yes	applied as practical	no specific restrictions	no specific restrictions
CLASS B (B)	receiving stream	domestic and industrial (reliability requirements)	no restrictions ²²		none ²² required	standard rules	yes	yes	no specific BMPs required	no specific restrictions	no specific restrictions
CLASS C (C)	receiving stream	domestic and industrial	no restrictions ²²		none ²² required	standard rules	yes	yes	no specific BMPs required	no specific restrictions	no specific restrictions
DWQ Supplemental Classifications											
NUTRIENT SENSITIVE WATERS (NSW)	entire watershed or river basin	domestic & industrial (watershed-specific nutrient removal required)	11 communities in Tar-Pamlico and 15 in Neuse Basins require stormwater to meet loading targets		50' in Neuse and Tar-Pamlico basins and Jordan Lake Watershed ¹⁴	standard rules	yes ¹⁸	yes	no specific BMPs required	no specific restrictions	no specific restrictions
DWQ TROUT WATERS (TR)	receiving stream & 25' buffer area	domestic & industrial (stricter treatment standards)	No restrictions		25' buffer between stream & graded area	standard rules plus special buffer zone	yes ¹⁸	yes	stricter NC Div. of Land Resources erosion controls apply	no specific restrictions	no specific restrictions
HIGH QUALITY WATERS (HQW)	within 1 mile from and draining to classified waters	domestic & industrial (stricter treatment standards for new or expanded discharges)	1 du / ac. or 12% built upon area ¹⁰	no limit specified (must control runoff from first 1' of rainfall ¹⁰)	low density - 30' ¹⁰ high density - N.A.	more stringent rules apply	yes ¹⁸	yes	stricter NC Div. of Land Resources erosion controls apply	new discharging landfills possibly restricted	no specific restrictions
OUTANDING RESOURCE WATERS (ORW)	normally entire watershed (drainage area)	no new discharges or expansions	1 du / ac. or 12% built upon area ¹⁰	no limit specified (must control runoff from first 1' of rainfall ¹⁰)	low density - 30' ¹⁰ high density - N.A.	more stringent rules apply	yes ¹⁸	yes	stricter NC Div. of Land Resources erosion controls apply	no new discharging landfills	no specific restrictions
SWAMP WATERS (SW)	receiving stream	no specific restrictions	no restrictions		none required	standard rules	yes ¹⁸	yes	no specific BMPs required	no specific restrictions	no specific restrictions
Other Agency Classifications											
FEDERAL WILD & SCENIC RIVERS (US Forest Service, National Park Service, etc.)	river corridor ⁵	no specific restrictions	no specific restrictions (State encourages local governments to regulate land use but is not mandatory)			standard rules	yes ¹⁸	yes	no specific BMPs required	no specific restrictions	may be restricted / prohibited
NC NATURAL & SCENIC RIVERS (NC Division of Parks and Recreation)	river corridor ⁶	no specific restrictions	no specific restrictions (federal government asks local governments to regulate land use, but is not mandatory)			standard rules	yes ¹⁸	yes	no specific BMPs required	no specific restrictions	may be restricted / prohibited
DESIGNATED PUBLIC MOUNTAIN TROUT WATERS ² (NC Wildlife Resources Commission)	designated waters	no specific restrictions	no specific restrictions (this classification is for fishery management purposes only)			standard rules	yes ¹⁸	yes	no specific BMPs required	no specific restrictions	may be restricted / prohibited

NOTES:

- Public water supplies are also subject to protection rules administered by the N.C. Division of Environmental Health, especially DEH designated Class I and II reservoirs.
- In an effort to protect trout streams, the U.S. Army Corps of Engineers' rules for the 25 western counties in the state require certain dredge and fill activities to obtain special Corps approval.
- Critical Area is 1/2 mile and draining to water supplies as measured from the normal pool elevation of reservoirs, or 1/2 mile and draining to a river intake.
- Protected Area is 5 miles and draining to water supplies as measured from the normal pool elevation of reservoirs, or 10 miles upstream of and draining to a river intake. However, in some cases the Protected Area can encompass the entire drainage area.
- Area is 1/4 mile wide from each bank for a "study" river corridor. Legal boundary description with no more than 320 acres per mile average for "designated" rivers.
- The corridor boundaries shall be the visual horizon or such distance from each shoreline as may be necessary, but not less than 20 feet. The state is authorized to carry out protection/management activities within this boundary.
- Where no practical alternative exists, treated discharge from groundwater remediation projects addressing water quality problems will be allowed.
- General permits cover relatively insignificant wastewater discharges such as swimming pool filter backwashes.
- New industrial process wastewater discharges are allowed but will require additional treatment requirements.
- These rules apply only to projects requiring a Sedimentation and Erosion Control Plan.
- 1/3 acre lot or 36 percent built upon surface area is allowed for projects without a curb and gutter street system.
- High Density Option requires control of runoff from the first 1 inch of rainfall through use of engineered stormwater controls. Local governments must assume ultimate responsibility for operation and maintenance of stormwater controls.
- Buffers for low and high density options are applicable to perennial waters and shorelines; however, an unique management strategy with different buffer requirements applies to Randleman Reservoir (15A NCAC 2B .0248-.0251). When the 10/70 provision is invoked, 100' buffers are needed.
- Riparian Buffer Protection Rules specifically applied to the surface waters of the Neuse River Basin and Tar-Pamlico River Basin went into effect in August 2000. Fifty-foot buffers are required for waters classified as NSW in these two basins and these buffers are more restrictive than buffers required by other classifications.
- Erosion and sedimentation controls are those specified under the N.C. Sedimentation Pollution Control Act (administered by the N.C. Division of Land Resources) or local government ordinances.
- All agricultural activities are subject to provisions of the Food Security Act of 1985 and the Food, Agriculture, Conservation and Trade Act of 1990.

- Agricultural activities must maintain a 10-foot vegetated buffer from perennial surface waters or equivalent control as determined by the Soil and Water Conservation Commission.
- Statewide rules administered by DWQ require certain size animal feedlots to have permit coverage and approved animal waste management plans, as well as to implement buffer zones between newly constructed waste facilities / waste application areas and perennial surface waters. In the Neuse River Basin and Tar-Pamlico River Basin, any agricultural operation is required either to become part of a collective local strategy for implementing BMPs or to implement standard BMPs.
- Silviculture activities are subject to the provisions of the Forest Practices Guidelines related to water quality. Activities on U.S. Forest Service lands are also subject to federal forest management guidelines.
- The Department of Transportation must use BMPs as described in their document, "Best Management Practices For Protection of Surface Waters" (March 1997).
- "Discharging" landfills are those that must obtain a National Pollutant Discharge Elimination System permit from DWQ to discharge treated leachate to surface waters.
- The following stormwater management requirements are applicable to development activities in the 20 Coastal Counties requiring a CAMA major permit or Erosion and Sedimentation Control Plan approval and, for non-residential development, any project proposing 10,000 square feet or more of built-upon area.
MINIMUM BUFFER REQUIREMENT: 30 ft – Redevelopment, 50 ft – New Development
LOW DENSITY THRESHOLD FOR BUILT-UPON AREA: 24% built upon area
ENGINEERED STORMWATER CONTROL FOR HIGH DENSITY: Requires control of runoff from the 1.5-inch rainfall event through the use of engineered stormwater controls.
 The following stormwater management requirements are applicable to development in post-construction coverage areas where development activities require an Erosion and Sedimentation Control Plan approval.
MINIMUM BUFFER REQUIREMENT: 30 ft
LOW DENSITY THRESHOLD FOR BUILT-UPON AREA: 24% built upon area
ENGINEERED STORMWATER CONTROL FOR HIGH DENSITY: Requires control of runoff from the 1.5-inch rainfall event through the use of engineered stormwater controls.

MAIN CONTACTS FOR INFORMATION

NC Division of Water Quality
 Planning Section
 1617 Mail Service Center
 Raleigh, NC 27699-1617
 (919) 807-6300

NC Division of Parks & Recreation
 1615 Mail Service Center
 Raleigh, NC 27699-1615
 (919) 733-4181

US Army Corps of Engineers
 Wilmington District Office
 P.O. Box 1890
 Wilmington, NC 28402-1890
 (910) 251-4511

US Forest Service
 P.O. Box 2750
 Asheville, NC 28802
 (828) 257-4200

NC Division of Land Resources
 Land Quality Section
 1612 Mail Service Center, Raleigh, NC 27699-1612
 (919) 733-4574

NC Wildlife Resources Commission
 Division of Inland Fisheries
 1721 Mail Service Center, Raleigh, NC 27699-1721
 (919) 733-3633