

# Hydric Soils

Pender County, North Carolina

[This report lists only those map unit components that are rated as hydric. Dashes (---) in any column indicate that the data were not included in the database. Definitions of hydric criteria codes are included at the end of the report]

Map symbol and map unit name	Map unit hydric component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>AnB:</b>					
Alpin fine sand, 1 to 6 percent slopes	Leon	2	Flats, Marine terraces	Yes	2
	Muckalee, undrained	2	Flood plains	Yes	2
<b>AtA:</b>					
Altavista fine sandy loam, 0 to 3 percent slopes	Roanoke, undrained	2	Depressions, Stream terraces	Yes	2
	Tomotley, undrained	2	Depressions, Stream terraces	Yes	2
<b>AuB:</b>					
Autryville fine sand, 1 to 4 percent slopes	Muckalee, undrained	2	Flood plains	Yes	2
<b>AyB2:</b>					
Aycock loam, 3 to 6 percent slopes, eroded	Muckalee, undrained	2	Flood plains	Yes	2
<b>BaB:</b>					
Baymeade fine sand, 1 to 4 percent slopes	Leon	2	Flats, Marine terraces	Yes	2
	Lynn Haven, undrained	2	Flats, Marine terraces	Yes	2
	Murville, undrained	2	Depressions, Marine terraces	Yes	2
	Torhunta, undrained	2	Depressions, Flats, Marine terraces	Yes	2
<b>Bo:</b>					
Bohicket silty clay loam, frequently flooded	Bohicket, tidal	85	Tidal marshes	Yes	2
<b>Ca:</b>					
Carteret fine sand, frequently flooded	Carteret, tidal	90	Tidal marshes	Yes	2
<b>Ch:</b>					
Chewacla and Chastain soils, frequently flooded	Chewacla	50	Flood plains	Yes	4
	Chastain, undrained	40	Flood plains, Slackwater areas	Yes	2, 3, 4
<b>Ct:</b>					
Croatan muck	Croatan, undrained	80	Pocosins	Yes	1
	Croatan, drained	10	Pocosins	Yes	1

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<b>Do:</b>					
Dorovan muck, frequently flooded	Dorovan	80	Flood plains	Yes	1, 3, 4
<b>EmA:</b>					
Exum loam, 0 to 2 percent slopes	Grantham, undrained	5	Broad interstream divides, Depressions	Yes	2
<b>EuA:</b>					
Exum-Urban land complex, 0 to 2 percent slopes	Grantham, undrained	3	Broad interstream divides, Depressions	Yes	2
	Muckalee, undrained	2	Flood plains	Yes	2
<b>Fo:</b>					
Foreston loamy fine sand	Woodington, undrained	5	Flats, Marine terraces	Yes	2
<b>GoA:</b>					
Goldsboro fine sandy loam, 0 to 2 percent slopes	Rains, undrained	3	Flats, Marine terraces	Yes	2
	Woodington, undrained	2	Flats, Marine terraces	Yes	2
<b>Gr:</b>					
Grantham loam	Grantham, drained	80	Broad interstream divides, Depressions	Yes	2
	Grantham, undrained	10	Broad interstream divides, Depressions	Yes	2
<b>Gt:</b>					
Grifton loamy fine sand	Grifton, undrained	80	Depressions	Yes	2
	Grifton, drained	10	Depressions	Yes	2
<b>InA:</b>					
Invershiel-Pender complex, 0 to 2 percent slopes	Meggett, undrained	5	Stream terraces	Yes	2, 4
<b>Jo:</b>					
Johns fine sandy loam	Lumbee, undrained	5	Backswamps, Stream terraces	Yes	2
	Muckalee, undrained	1	Flood plains	Yes	2
<b>KeB:</b>					
Kenansville fine sand, 0 to 4 percent slopes	Muckalee, undrained	2	Flood plains	Yes	2

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<b>KuB:</b>					
Kureb fine sand, 2 to 6 percent slopes	Leon	3	Flats, Marine terraces	Yes	2
	Murville, undrained	2	Depressions, Marine terraces	Yes	2
<b>LnA:</b>					
Leon fine sand, 0 to 2 percent slopes	Leon	80	Flats, Marine terraces	Yes	2
	Murville, undrained	5	Depressions, Marine terraces	Yes	2
<b>Ls:</b>					
Liddell silt loam	Liddell, drained	80	Depressions	Yes	2
	Liddell, undrained	10	Depressions	Yes	2
<b>Lu:</b>					
Lumbee fine sandy loam, occasionally flooded	Lumbee, undrained	80	Backswamps, Stream terraces	Yes	2
	Lumbee, drained	10	Backswamps, Stream terraces	Yes	2
<b>Ma:</b>					
Mandarin fine sand	Leon	3	Flats, Marine terraces	Yes	2
	Murville, undrained	2	Depressions, Marine terraces	Yes	2
<b>McC:</b>					
Marvyn and Craven soils, 6 to 12 percent slopes	Muckalee, undrained	2	Flood plains	Yes	2
<b>Me:</b>					
Meggett loam	Meggett, undrained	80	Stream terraces	Yes	2, 4
	Meggett, drained	10	Stream terraces	Yes	2, 4
<b>Mk:</b>					
Muckalee loam, frequently flooded	Muckalee, undrained	80	Flood plains	Yes	2
<b>Mu:</b>					
Murville muck	Murville, undrained	80	Depressions, Marine terraces	Yes	2
<b>NhC:</b>					
Newhan fine sand, dredged, 2 to 10 percent slopes	Duckston	5	Depressions	Yes	2

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<b>NkE:</b>					
Newhan-Corolla complex, 0 to 30 percent slopes	Duckston	5	Depressions	Yes	2
<b>NmE:</b>					
Newhan-Corolla-Urban land complex, 0 to 30 percent slopes	Beaches	5	Barrier beaches, Barrier flats	Yes	2
	Duckston	5	Depressions	Yes	2
<b>NoB:</b>					
Norfolk loamy fine sand, 2 to 6 percent slopes	Woodington, undrained	3	Flats, Marine terraces	Yes	2
	Muckalee, undrained	1	Flood plains	Yes	2
<b>On:</b>					
Onslow loamy fine sand	Rains, undrained	5	Flats, Marine terraces	Yes	2
<b>PaA:</b>					
Pactolus fine sand, 0 to 2 percent slopes	Leon	3	Flats, Marine terraces	Yes	2
	Murville, undrained	2	Depressions, Marine terraces	Yes	2
	Lumbee, undrained	1	Backswamps, Stream terraces	Yes	2
<b>Pn:</b>					
Pantego mucky fine sandy loam	Pantego, drained	80	Flats, Marine terraces	Yes	2
	Pantego, undrained	10	Flats, Marine terraces	Yes	2
<b>Ra:</b>					
Rains fine sandy loam	Rains, drained	80	Flats, Marine terraces	Yes	2
	Rains, undrained	10	Flats, Marine terraces	Yes	2
<b>To:</b>					
Torhunta mucky fine sandy loam	Torhunta, drained	80	Depressions, Flats, Marine terraces	Yes	2
	Torhunta, undrained	10	Depressions, Flats, Marine terraces	Yes	2
<b>Wo:</b>					
Woodington fine sandy loam	Woodington, drained	80	Flats, Marine terraces	Yes	2
	Woodington, undrained	10	Flats, Marine terraces	Yes	2

## Hydric Soils

This table lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2003) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
  - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
  - B. are poorly drained or very poorly drained and have either:
    - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
    - 2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
    - 3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

### References:

- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. September 18, 2002. Hydric soils of the United States.
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- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.
- Soil Survey Staff. 2003. Keys to soil taxonomy. 9th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.
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- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.