North Carolina Forestry BMP Manual

--Amended 2021 Version--

Appendix 10: Laws, Rules, and Guidance

Updated March 2022

***** This Appendix is only published online. *****

Laws, rules and guidance may change.
Each section includes a website link in blue underlined text. Below are other references to consult:

Federal Laws (U.S. Code, USC): https://uscode.house.gov/
Federal Rules (Code of Federal Regulations, CFR): https://www.ecfr.gov/
State Laws (General Statutes, G.S.): https://www.ncleg.gov/Laws/GeneralStatutes
State Rules (NC Administrative Code, NCAC): http://reports.oah.state.nc.us/ncac.asp

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FPGs: N.C. Forest Practices Guidelines Related to Water Quality

[NOTE: The FPGs were revised and re-adopted in April 2018. Make sure you are following the current standards].

SUBCHAPTER 60C FOREST PRACTICES GUIDELINES RELATED TO WATER QUALITY

SECTION .0100 GENERAL PROVISIONS

02 NCAC 60C .0101 INTRODUCTION AND PURPOSE

(a) The rules in this Subchapter establish performance standards for the protection of water quality during silvicultural activities. Persons shall adhere to the standards related to silvicultural land disturbing activities in order to retain the forestry exemption provided in G.S. 113A-52.1, the N.C. Sedimentation Pollution Control Act of 1973, as amended in 1989.

(b) Implementation of the rules in this Subchapter shall recognize that extreme and unusual weather may cause reasonable and otherwise adequate application of protective measures to fail. Where such measures fail and the resulting effect is not in compliance with a rule of this Subchapter, the responsible party(ies) shall implement corrective measures. The Forestry Best Management Practices Manual, developed and published by the North Carolina Forest Service Division, contains specifications for a variety of practices that may be used to meet the performance standards set forth in this Subchapter. Best Management Practices (BMPs) should be developed and selected to allow for the variation in weather, topography, soil, and vegetation expected for the site and season. This manual and the rules in this Subchapter may be obtained by contacting the, Assistant Commissioner, North Carolina Forest Service Division, Raleigh, North Carolina.

02 NCAC 60C .0102 DEFINITIONS

In addition to the terms defined in G.S. 113A-52, the following definitions shall apply throughout this Subchapter:

(1) "Accelerated Erosion" means any increase over the rate of natural erosion, as a result of land-disturbing activities.

(2) "Access Road" means a temporary or permanent access route upon which wheeled vehicles are intended to operate with repeated passes.

(3) "Adverse Impact" as used for pesticides and fertilizers means actions that result in a violation of water quality rules of the Environmental Management Commission Sections 15A NCAC 02B .0200 - Classifications and Water Quality Standards Applicable to Surface Waters of North Carolina, 15A NCAC 02L .0200 - Classifications and Water Quality Standards (related to groundwater) and the N.C. Pesticide Board Rule 02 NCAC 09L .1005 - Restricted Areas, which are incorporated by reference including subsequent amendments.

(4) "Best Management Practice" (BMP) means a practice, or combination of practices, that is determined to be an effective and practicable (including technological, economic, and institutional considerations) means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals. The Best Management Practices may be found in the North Carolina Forestry Best Management Practices Manual to Protect Water Quality and is incorporated by reference including subsequent amendments.

(5) "Channel" means a natural water-carrying trough cut vertically into low areas of the land surface by erosive action of concentrated flowing water, a ditch, or canal excavated for the flow of water.

(6) "Colloidal Particles" means fine grained materials, organic or inorganic, that are suspended such as clay particles.

(7) "Ground Cover" means any natural vegetative growth, or other natural or manmade material that renders the soil surface stable against accelerated erosion.

(8) "Groundwater" means phreatic water or subsurface water in the zone of saturation.

(9) "Land-Disturbing Activity" means the same as defined in G.S. 113A-52.

(10) "Log Deck" means a place where harvested trees or logs are gathered or staged in or near the forest for handling, sorting, merchandizing, temporary storage, or further transport.

(11) "Mill Site" means any place where forest products are stored, altered, or processed.

(12) "Permanently Stabilized" means the site is protected to the state at which no further accelerated erosion is expected to occur from the forestry-related, land-disturbing activities.

(13) "Pesticides" means a chemical used to kill pests. The term includes insecticides, fungicides, herbicides, and rodenticides.

(14) "Site Preparation" means a forest activity to prepare the site for reforestation.

(15) "Skid Trail" means a temporary pathway used to drag or transport felled trees or logs or other woody material to a log deck or portable mill site.

(16) "Stream" means a body of concentrated flowing water in a natural low area of the land surface.

(a) "Ephemeral stream" means a stream that flows only during and for short periods following precipitation and flows in low areas that may or may not have a well-defined channel.

(b) "Intermittent stream" means a stream that flows only during wet periods of the year (30-90 percent of the time) and flows in a continuous well-defined channel.

(c) "Perennial stream" means a stream that flows throughout a majority of the year (greater than 90 percent of the time) and flows in a well-defined channel.

(17) "Streamside Management Zone (SMZ)" means an area along both sides of intermittent streams and perennial streams and along the margins of perennial waterbodies where extra precaution is used in carrying out forestry-related, land-disturbing activities in order to protect water quality.

(18) "Visible Sediment" means solid particulate matter, both mineral and organic, which may be seen with the unaided eye that has been or is being transported by water, air, gravity, or ice from its site of origin. This does not include colloidal sized particles.

(19) "Waterbody" means a natural or man-made basin that stores water, not including jurisdictional wetlands or beaver ponds.

(20) "Working Days" means days exclusive of Saturdays and Sundays during which weather conditions or soil conditions permit land-disturbing activity to be undertaken.

SECTION .0200 PERFORMANCE STANDARDS

02 NCAC 60C .0201 STREAMSIDE MANAGEMENT ZONE

(a) A streamside management zone (SMZ) shall be established and maintained along the margins of intermittent streams, perennial streams and perennial waterbodies. The SMZ shall confine visible sediment resulting from accelerated erosion.

(b) Ground cover, or best management practices, within the SMZ shall restrain accelerated erosion.

(c) Access roads, skid trails, except as provided in Rule .0203 of this Section, logging decks and mill sites shall be placed outside of SMZs. When barriers such as property lines or limiting land features prohibit the location of any of these outside of SMZs, they can be located within the SMZs. When located within SMZs, there shall be effective erosion control and sediment control structures or measures installed to restrain accelerated erosion and prevent visible sediment from entering intermittent streams, perennial streams or perennial waterbodies.

02 NCAC 60C .0202 PROHIBITION OF DEBRIS ENTERING STREAMS AND WATERBODIES

Stream obstruction and the impediment of stream flow or degradation of water quality shall be prevented by keeping soil and debris from forestry-related, land-disturbing activities out of intermittent streams, perennial streams and perennial waterbodies.

02 NCAC 60C .0203 ACCESS ROAD AND SKID TRAIL STREAM CROSSINGS

Access roads and skid trails that cross an intermittent stream, a perennial stream or a perennial waterbody shall be installed so as to minimize the amount of visible sediment that enters that stream or waterbody. These crossings shall be installed so that:

(1) stream flow will not be obstructed or impeded;

(2) no intermittent stream channel, perennial stream channel, or perennial waterbody shall be used as an access road or skid trail;

(3) crossings are provided with effective structures or ground cover to protect the stream banks and stream channel from accelerated erosion;

(4) crossings shall have sufficient water control devices to collect and divert surface flow from the access road or skid trail into undisturbed areas or other control structures to restrain accelerated erosion and prevent visible sediment from entering intermittent streams, perennial streams, and perennial waterbodies; and

(5) ground cover, or best management practices, that prevent visible sediment from entering intermittent streams, perennial streams, and perennial waterbodies shall be provided within ten working days of initial disturbance and will be maintained until the site is permanently stabilized.

02 NCAC 60C .0204 ACCESS ROAD ENTRANCES

A forest access road entrance that intersects a paved road shall be installed and maintained to prevent visible sediment or other debris from being deposited onto the paved road to the extent that the visible sediment or other debris would enter an intermittent stream, a perennial stream, or a perennial waterbody.

02 NCAC 60C .0205 PROHIBITION/WASTE ENTERING STREAMS /WATERBODIES /GROUNDWATER

Measures shall be taken to prevent equipment servicing waste, petroleum, fertilizers, or other chemical waste from entering streams, perennial waterbodies, and groundwater that results in a violation of an water quality standard of the Environmental Management Commission in Sections 15A NCAC 02B .0200 - Classifications and Water Quality Standards Applicable to Surface Waters of North Carolina, and 15A NCAC 02L .0200 - Classifications and Water Quality Standards (related to groundwater).

02 NCAC 60C .0206 PESTICIDE APPLICATION

Application of pesticides shall be limited to those labeled for that intended use, shall be used in accordance with labeling and rules adopted by the N.C. Pesticide Board as set forth in 02 NCAC 09L .1005, Restricted Areas, and applied in a manner to prevent adverse impacts on water quality.

02 NCAC 60C .0207 FERTILIZER APPLICATION

When used, fertilizers shall be applied in a manner to prevent adverse impacts on water quality.

02 NCAC 60C .0208 PERENNIAL STREAM TEMPERATURE

Shade within SMZs associated with natural perennial streams shall be retained to protect those streams from temperature fluctuations that result in a violation of a water quality standard of the Environmental Management Commission as contained in Rule 15A NCAC 02B .0211 - Fresh Surface Water Classifications and Standards which is incorporated by reference including subsequent amendments.

02 NCAC 60C .0209 REHABILITATION OF PROJECT SITE

Areas on the project site that have the potential for accelerated erosion to cause visible sediment to enter an intermittent stream, a perennial stream, or a perennial waterbody, shall be provided with ground cover or best management practices of adequate sedimentation control within 30 working days after ceasing any phase of an operation or beginning a period of inactivity. Sedimentation control measures or ground cover shall be required for any area that is contributing or has contributed visible sediment into an intermittent stream, a perennial stream, or a perennial waterbody, regardless of when the visible sedimentation occurred as a result of the forestry-related,

land-disturbing activity. Treatment and maintenance of those areas shall be sufficient to restrain accelerated erosion and prevent visible sediment from entering intermittent streams, perennial streams, and perennial waterbodies until the site is permanently stabilized.

SPCA: N.C. Sedimentation Pollution Control Act

[NOTE: Below are excerpts of the SPCA related to forestry. For website link, click here.]

G.S. 113A-52. Definitions.

"As used in this Article, unless the context otherwise requires:

(1) Repealed by Session Laws 1973, c. 1417, s. 1.

(1a) "Affiliate" has the same meaning as in 17 Code of Federal Regulations § 240.12(b)-2 (1 June 1993 Edition), which defines "affiliate" as a person that directly, or indirectly through one or more intermediaries, controls, is controlled by, or is under common control of another person.

(2) "Commission" means the North Carolina Sedimentation Control Commission.

(3) "Department" means the North Carolina Department of Environmental Quality.

(4) "District" means any Soil and Water Conservation District created pursuant to Chapter 139, North Carolina General Statutes.

(5) "Erosion" means the wearing away of land surface by the action of wind, water, gravity, or any combination thereof.

(6) "Land-disturbing activity" means any use of the land by any person in residential, industrial, educational, institutional or commercial development, highway and road construction and maintenance that results in a change in the natural cover or topography and that may cause or contribute to sedimentation.

(7) "Local government" means any county, incorporated village, town, or city, or any combination of counties, incorporated villages, towns, and cities, acting through a joint program pursuant to the provisions of this Article.

(7a) "Parent" has the same meaning as in 17 Code of Federal Regulations § 240.12(b)-2 (1 June 1993 Edition), which defines "parent" as an affiliate that directly, or indirectly through one or more intermediaries, controls another person.

(8) "Person" means any individual, partnership, firm, association, joint venture, public or private corporation, trust, estate, commission, board, public or private institution, utility, cooperative, interstate body, or other legal entity.

(9) "Secretary" means the Secretary of Environmental Quality.

(10) "Sediment" means solid particulate matter, both mineral and organic, that has been or is being transported by water, air, gravity, or ice from its site of origin.

(10a) "Subsidiary" has the same meaning as in 17 Code of Federal Regulations § 240.12(b)-2 (1 June 1993 Edition), which defines "subsidiary" as an affiliate that is directly, or indirectly through one or more intermediaries, controlled by another person.

(10b) "Tract" means all contiguous land and bodies of water being disturbed or to be disturbed as a unit, regardless of ownership.

(11) "Working days" means days exclusive of Saturday and Sunday during which weather conditions or soil conditions permit land-disturbing activity to be undertaken."

G.S. 113A-52.01. Applicability of this Article.

"This Article shall not apply to the following land-disturbing activities:

(1) Activities, including the production and activities relating or incidental to the production of crops, grains, fruits, vegetables, ornamental and flowering plants, dairy, livestock, poultry, and all other forms of agriculture undertaken on agricultural land for the production of plants and animals useful to man, including, but not limited to:

a. Forages and sod crops, grains and feed crops, tobacco, cotton, and peanuts.

b. Dairy animals and dairy products.

c. Poultry and poultry products.

d. Livestock, including beef cattle, llamas, sheep, swine, horses, ponies, mules, and goats.
e. Bees and apiary products.
f. Fur producing animals.
g. Mulch, ornamental plants, and other horticultural products. For purposes of this section, "mulch" means substances composed primarily of plant remains or mixtures of such substances.

(2) Activities undertaken on forestland for the production and harvesting of timber and timber products and conducted in accordance with standards defined by the Forest Practice Guidelines Related to Water Quality, as adopted by the Department of Agriculture and Consumer Services.

(3) Activities for which a permit is required under the Mining Act of 1971, Article 7 of Chapter 74 of the General Statutes.

(4) For the duration of an emergency, activities essential to protect human life, including activities specified in an executive order issued under G.S. 166A-19.30(a)(5).

(5) Activities undertaken to restore the wetland functions of converted wetlands to provide compensatory mitigation to offset impacts permitted under Section 404 of the Clean Water Act.

(6) Activities undertaken pursuant to Natural Resources Conservation Service standards to restore the wetlands functions of converted wetlands as defined in Title 7 Code of Federal Regulations § 12.2 (January 1, 2014 Edition)."

G.S. 113A-52.1. Forest Practice Guidelines.

"(a) The Department of Agriculture and Consumer Services shall adopt Forest Practice Guidelines Related to Water Quality (best management practices). The adoption of Forest Practices Guidelines Related to Water Quality under this section is subject to the provisions of Chapter 150B of the General Statutes.

(b) If land-disturbing activity undertaken on forestland for the production and harvesting of timber and timber products is not conducted in accordance with Forest Practice Guidelines Related to Water Quality, the provisions of this Article shall apply to such activity and any related land-disturbing activity on the tract.

(c) The Commissioner [of Agriculture] shall establish and appoint a Forestry Technical Advisory Committee to assist in the development and periodic review of Forest Practice Guidelines Related to Water Quality. The Forestry Technical Advisory Committee shall consist of one member from the forest products industry, one member who is a consulting forester, one member who is a private landowner knowledgeable in forestry, one member from the United States Forest Service, one member from the academic community who is knowledgeable in forestry, one member employed by the Department of Environmental Quality who is knowledgeable in erosion and sedimentation control, one member who is knowledgeable in wildlife management, one member who is knowledgeable in marine fisheries management, one member who is knowledgeable in water quality, and one member from the conservation community."

G.S. 113A-61.1. Inspection of Land-Disturbing Activity; Notice of Violation.

"(a) The [Sedimentation Control] Commission, a local government that administers an erosion and sedimentation control program approved under G.S. 113A-60, or other approving authority shall provide for inspection of land-disturbing activities to ensure compliance with this Article and to determine whether the measures required in an erosion and sedimentation control plan are effective in controlling erosion and sedimentation resulting from the land-disturbing activity. Notice of this right of inspection shall be included in the certificate of approval of each erosion and sedimentation control plan. The Department of Agriculture and Consumer Services may inspect land-

disturbing activities undertaken on forestland for the production and harvesting of timber and timber products to determine compliance with the Forest Practice Guidelines Related to Water Quality adopted pursuant to G.S. 113A-52.1."

...

"(b1) No person shall willfully resist, delay, or obstruct an authorized representative, employee, or agent of the Department of Agriculture and Consumer Services while the representative, employee, or agent is inspecting or attempting to inspect a land-disturbing activity undertaken on forestland for the production and harvesting of timber and timber products under this section."

Water Quality Temperature and Turbidity Standards, Class C Waters

State Rule 15A NCAC 02B .0211

[NOTE: Below are excepts for the Temperature and Turbidity standards of Class C freshwaters, which are the minimum standards that apply to all fresh surface waters of North Carolina. FPG .0208 cross-references this Rule for the temperature standards outlined below.]

Temperature: "not to exceed 2.8 degrees C (5.04 degrees F) above the natural water temperature, and in no case to exceed 29 degrees C (84.2 degrees F) for mountain and upper piedmont waters and 32 degrees C (89.6 degrees F) for lower piedmont and coastal plain Waters; the temperature for trout waters shall not be increased by more than 0.5 degrees C (0.9 degrees F) due to the discharge of heated liquids, but in no case to exceed 20 degrees C (68 degrees F)."

Turbidity: "the turbidity in the receiving water shall not exceed 50 Nephelometric Turbidity Units (NTU) in streams not designated as trout waters and 10 NTU in streams, lakes, or reservoirs designated as trout waters; for lakes and reservoirs not designated as trout waters, the turbidity shall not exceed 25 NTU; if turbidity exceeds these levels due to natural background conditions, the existing turbidity level shall not be increased. Compliance with this turbidity standard shall be deemed met when land management activities employ Best Management Practices (BMPs), as defined by Rule .0202 of this Section, recommended by the Designated Nonpoint Source Agency, as defined by Rule .0202 of this Section."

Waterway Obstruction Laws

G.S. 77-13: Obstructing Streams a Misdemeanor

"If any person, firm, or corporation shall fell any tree, or put any obstruction, except for the purposes of utilizing water as a motive power, in any branch, creek, stream, or other natural passage for water, whereby the natural flow of water through such passage is lessened or retarded, or whereby the navigation of such stream may be impeded, delayed, or prevented, the person, firm, or corporation so offending shall be guilty of a Class 2 misdemeanor. In addition to any fine or imprisonment imposed, the court may, in its discretion, order the person, firm, or corporation so offending to remove the obstruction and restore the affected waterway to an undisturbed condition, or allow authorized employees of the enforcing agency to enter upon the property and accomplish the removal of the obstruction and the restoration of the waterway to an undisturbed condition, in which case the costs of the removal and restoration shall be paid to the enforcing agency by the offending party. Nothing in this section shall prevent the erection of fish dams or hedges across any stream which do not extend across more than two thirds of its width at the point of obstruction. If the fish dams or hedges extend more than two thirds of the width of any stream, the said penalties shall attach. This section may be enforced by marine fisheries inspectors and wildlife protectors. Within

the bounds of any county or municipality, this section may also be enforced by any law enforcement officer having territorial jurisdiction, or by the county engineer. This section may also be enforced by specially commissioned forest law-enforcement officers of the Department of Agriculture and Consumer Services for offenses occurring in woodlands. For purposes of this section, the term "woodlands" means all forested areas, including swamp and timber lands, cutover lands, and second-growth stands in previously cultivated sites."

G.S. 77-14: Obstructions in Streams and Drainage Ditches

"If any person, firm or corporation shall fell any tree or put any slabs, stumpage, sawdust, shavings, lime, refuse or any other substances in any creek, stream, river or natural or artificial drainage ravine or ditch, or in any other outlet which serves to remove water from any land whatsoever whereby the drainage of said land is impeded, delayed or prevented, the person, firm or corporation so offending shall be guilty of a Class 2 misdemeanor: Provided, however, nothing herein shall prevent the construction of any dam or weir not otherwise prohibited by any valid local or State statute or regulation. In addition to any fine or imprisonment imposed, the court may, in its discretion, order the person, firm, or corporation so offending to remove the obstruction and restore the affected waterway to an undisturbed condition, or allow authorized employees of the enforcing agency to enter upon the property and accomplish the removal of the obstruction and the restoration of the waterway to an undisturbed condition, in which case the costs of the removal and restoration shall be paid to the enforcing agency by the offending party. This section may be enforced by marine fisheries inspectors and wildlife protectors. Within the boundaries of any county or municipality this section may also be enforced by any law enforcement officer having territorial jurisdiction, or by the county engineer. This section may also be enforced by specially commissioned forest law-enforcement officers of the Department of Agriculture and Consumer Services for offenses occurring in woodlands. For purposes of this section, the term "woodlands" means all forested areas, including swamp and timber lands, cutover lands and second-growth stands on previously cultivated sites."

Interpretive Guidance Letter: Waterway Obstructions, DOT Ditches, and DOT Driveway Permits

NCFS Interpretive Guidance Letter on Stream and Ditch Obstructions

WQ-IGL 2018.1
January 31, 2018
From: Tom Gerow, Jr. - Water Resources Staff Forester

Subject: **Stream and Ditch Obstructions**

To All Interested Parties:

Purpose

This Interpretive Guidance Letter is intended to clarify how the North Carolina (N.C.) Forest Service generally interprets certain aspects of state laws and rules pertaining to obstructions in waterways.

Much of this guidance has been put into practice by the N.C. Forest Service over the years, but may not have been clearly communicated or spelled-out in one document. The goal is to outline expectations while striving for consistent and predictable outcomes when assessing waterways for possible obstruction.

This guidance has been reviewed by staff specialists with expertise in legal interpretation and the adjudication of state law. The guidance in this Letter is nonbinding and is subject to change.
Nothing herein shall be considered legal advice.

Background and Topics Addressed

There are state-enacted restrictions intended to avoid adverse impacts from actions that obstruct a waterway. There may be specific, unique situations where a minimal amount of material in a waterway does not result in adverse impacts. However, the state's laws and rules are written very broadly, therefore there is a need for interpretation and guidance. When assessing a possible waterway obstruction, each situation must be assessed on a case-by-case basis.

The topics in this Guidance Letter are listed below:

Part 1: Types of Streams

For the purposes of this Guidance Letter, the N.C. Forest Service uses the definitions excerpted below from the *Forest Practice Guidelines Related to Water Quality*, 02 NCAC 60C .0102:

> "Ephemeral Stream means a stream that flows only during and for short periods following precipitation and flows in low areas that may or may not have a well-defined channel."
>
> "Intermittent Stream means a stream that flows only during wet periods of the year (30-90 percent of the time) and flows in a continuous well-defined channel."
>
> "Perennial Stream means a stream that flows throughout a majority of the year (greater than 90 percent of the time) and flows in a well-defined channel."
>
> "Waterbody means a natural or man-made basin that stores water, not including jurisdictional wetlands or beaver ponds."

Part 2: Assessing Ephemeral Streams

The N.C. Forest Service usually does not pursue the removal of deposited or accumulated debris or soil within an Ephemeral Stream.

- **However, if <u>any</u> of the following conditions occur, then the N.C. Forest Service may pursue removal of that obstruction, under the authority of G.S. 77-13:**

  A. The landowner insists that the obstruction caused by a forestry-related, land-disturbing activity on his/her land be cleared from the Ephemeral Stream, even after consulting with the N.C. Forest Service to assess the situation; **<u>or,</u>**

  B. The obstruction is impounding water upon the land of, or within the waterway of, another owner's property; **<u>or</u>**,

  C. The obstruction causes water flow within the Ephemeral Stream to bypass around, or overflow out of, the Ephemeral Stream drainageway; **<u>or</u>**,

D. The obstruction causes sedimentation into an Intermittent Stream, Perennial Stream, or perennial Waterbody.

Other common names for an Ephemeral Stream may include gully, swale, hollow, draw, drain, or slough.

Part 3: Evaluating What is an Obstruction

A. The N.C. Forest Service usually does not pursue the removal of a waterway obstruction that resulted from naturally-occurring events, including tree mortality, flood, or storm.

B. Even though the state laws and rules on waterway obstructions use the word "debris", this word is interpreted to also mean soil that has been pushed-in or dropped-into a waterway (stream or ditch) as a result of a forestry-related activity.

C. Because the state laws and rules on waterway obstructions are written so broadly, it is challenging to determine how much deposited material causes an 'obstruction'. Below are two scenarios which outline interpretive guidance to consider when evaluating waterways:

1) Obstruction when Water is in the Channel:
For a stream or hydrologically-connected (functioning) woodland ditch that has water in its channel at the time of inspection, an "obstruction" could be considered as debris or soil that is impeding the flow of water to such a degree that the level of the water immediately upstream of the obstruction is visibly and unusually higher or encompasses an unusually wider surface area than the water immediately downstream of the obstruction; or deposited soil within the channel is contributing to increased sedimentation into the water.

2) Obstruction when Water is Absent:
For a stream or hydrologically-connected (functioning) woodland ditch that does not have water in its channel at the time of inspection, an "obstruction" could be considered as debris or soil that is visible within the channel in such a quantity, or in a position within the centerline of the channel, so that the obstruction can reasonably be expected to impede the normal flow of water or contribute an increased amount of sedimentation upon return of water flow.

Part 4: FPG .0202, Prohibition of Debris Entering Streams and Waterbodies

The North Carolina FPG standard 02 NCAC 60C .0202 states the following:

"Stream obstruction and the impediment of stream flow and/or degradation of water quality shall be prevented by keeping debris from construction, harvesting, mill site residue, and site preparation out of intermittent and perennial streams and perennial waterbodies."

Key Interpretations for FPG Standard .0202:

A. This FPG standard only applies to Intermittent Streams, Perennial Streams, and perennial Waterbodies. This FPG .0202 does not apply to Ephemeral Streams nor ditches.

B. When debris or soil is deposited into a perennial Waterbody (for example: a pond or lake), this FPG standard may be out-of-compliance if that debris causes "degradation of water quality". In practice, this will require a case-by-case assessment, and it could be difficult to establish baseline standards for achieving consistent determinations. Factors to consider may include:

- How much and/or what type of deposited material is in the waterbody.
- The potential for increased sedimentation caused by the deposited debris.
- The classification or type of waterbody (for example: a drinking water supply, or aquaculture pond, or high-quality water designation, or other special designation).

Part 5: State Laws Prohibiting Waterway Obstructions

There are two state law General Statutes (G.S.) which, generally speaking, prohibit obstructing natural or artificial waterways in North Carolina. These two statewide laws are, at times, applicable to forestry-related, land-disturbing activities:

North Carolina G.S. 77-13, *Obstructing Streams a Misdemeanor*.
North Carolina G.S. 77-14, *Obstructions in Streams and Drainage Ditches*.

Each of these laws authorizes "forest law-enforcement officers" of the North Carolina Department of Agriculture and Consumer Services (N.C. Forest Service) to enforce the provisions of these laws when the obstruction occurs "in woodlands". If an offense occurs entirely upon agricultural land, then the N.C. Forest Service would not have authority to pursue obstruction removal.

Part 5.A: G.S. 77-13, Obstructing Streams a Misdemeanor

1. This law applies to naturally-occurring waterways.

2. When applying the provisions of G.S. 77-13, the N.C. Forest Service **usually does not pursue** the removal of an obstruction when it occurs in an Ephemeral Stream, except as noted in Part 2 of this Letter.

Part 5.B: G.S. 77-14, Obstructions in Streams and Drainage Ditches

1. This law applies to both natural and artificial waterways, but not for NCDOT road ditches (see Part 6 of this Letter).

2. In practice, the N.C. Forest Service applies the provisions of G.S. 77-14 when assessing possible obstructions in functioning woodland ditches. If the vegetation within the ditch is grown-up so much that there is no evidence of water, or if the ditch has not been maintained to facilitate drainage flow, then that ditch is generally considered not to be functioning.

3. When applying the provisions of G.S. 77-14, the N.C. Forest Service **usually does not pursue** the removal of a ditch obstruction when all of the following conditions below are met:
    a) The landowner gives notice to keep the obstruction in place; **and**,
    b) That ditch is entirely located on land owned or controlled by that landowner; **and**,
    c) The ditch obstruction does not cause water to impound upon the land of, or within the waterway of, another owner's property, **and**,
    d) The ditch obstruction does not cause sedimentation into an Intermittent Stream, Perennial Stream, or perennial Waterbody.

    [NOTE: all four of the above conditions must be 'true' for that ditch obstruction to remain.]

Part 6: Obstructions in N.C. Department of Transportation Roadside Ditches

North Carolina G.S.136-92 and G.S.136-92.1 prohibit blockage of a ditch along or from roads that are maintained by the N.C. Department of Transportation (NCDOT), excerpted below:

G.S. 136-92. Obstructing Highway Drains Prohibited.

"It is unlawful to obstruct a drain along or leading from any public road in the State. A person who violates this section is responsible for an infraction."

G.S. 136-92.1. Exemption from Temporary Driveway Permitting for Forestry Operations.

"Forestry operations and silviculture operations, including the harvesting of timber, and other related management activities that require temporary ingress from a property to State roads shall be exempt from the

temporary driveway permit process of the Department for State roads, except for controlled access facilities, if the operator of the temporary driveway has attended an educational course on timbering access and obtained a safety certification. Driveway access points covered by this section shall be temporary and shall be removed upon the earlier of six months or the end of forestry or silviculture operations on the property."

The N.C. Forest Service does not have authority to enforce NCDOT laws.
However, if our employees observe a potential violation of these laws, then we will take the following action:

1. Verbally inform the logger or operator (if known) that the site may be violating NCDOT laws and recommend that the obstruction/temporary driveway be removed as soon as possible.

2. Prepare and send a letter to the landowner informing the owner that a potential violation may exist, and recommend that the obstruction/temporary driveway be removed, and provide the landowner with contact information for the appropriate NCDOT office.

3. If the NCDOT or a law enforcement officer requests information about the name(s) of the logger, timber buyer, or other involved parties that may have caused the obstruction or installed the temporary driveway, then the N.C. Forest Service will make an effort to help identify the involved parties and, if identified, will share this information with the NCDOT or law enforcement officer.

Part 7: Stream & Wetland Restoration

The restoration of streams and/or wetlands may require that a stream, ditch, or other waterway be temporarily or permanently obstructed. Restoration work should only occur under the authority of applicable federal, state, and/or local government permit(s), or an administrative order.

The process of restoring a stream or wetland is not considered to be a forestry-related, land-disturbing activity. Therefore, the FPG standards are not applicable, and the N.C. Forest Service would not apply the provisions of G.S. 77-13 or G.S. 77-14.

Part 8: Administrative Process

The primary method of documentation used by the N.C. Forest Service to record information about water quality site inspections is Form 4808-1, "Forest Water Quality Site Inspection & Compliance Notification Form", and subsequent follow-up forms in the 4808 series (-2, -3, -4).

If a tract's forestry operation is determined to be Out of Compliance, then all involved parties will receive a copy of Form 4808-1. In addition, they should receive a "Site Summary Report" on N.C. Forest Service agency letterhead. That report will briefly outline the timelines of inspections done by the N.C. Forest Service, the noted compliance problems that need to be fixed, a map of the site prepared by the N.C. Forest Service, and it may include photos of the issues of concern.

Part 8.A: NCFS Process for Obstructions in an Intermittent Stream, Perennial Stream, or Perennial Waterbody:

Step 1: Applicable FPG noted as Out of Compliance. Timeframe given to remove obstruction and stabilize the site.

- FPG .0202, if the obstruction occurs generally on the job site.
- FPG .0203, if the obstruction is caused by, or located at, a stream crossing.

Step 2: If necessary due to continued lack of effort to effectively remove the obstruction, then N.C. Forest Service Law Enforcement Officer may initiate legal action for a violation of G.S. 77-13.

Step 3: If necessary due to continued lack of effort, then N.C. Forest Service can make an interagency referral to the N.C. Dept. of Environmental Quality's Division of Energy, Mineral, and Land Resources (DEMLR). That agency will then invoke its authority to pursue removal of the obstruction in accordance with the requirements of the N.C. Sedimentation Pollution Control Act.

Part 8.B: NCFS Process for Obstructions in Drainage Ditches:

Step 1: Site noted to be in violation of G.S. 77-14. Timeframe given to remove obstruction and stabilize the site.
Step 2: If necessary due to continued lack of effort to effectively remove the obstruction, then N.C. Forest Service Law Enforcement Officer may initiate legal action for a violation of G.S. 77-14.

Part 8.C: NCFS Process for Obstructions in Ephemeral Streams*:

***** *[See Part 2 of this Letter for the few, special situations when this may occur.]*

Step 1: Site noted to be in violation of G.S. 77-13. Timeframe given to remove obstruction and stabilize the site.
Step 2: If necessary due to continued lack of effort to effectively remove the obstruction, then N.C. Forest Service Law Enforcement Officer may initiate legal action for a violation of G.S. 77-13.

Part 9: Wildfires

During the control, containment and/or suppression of a wildfire, there are times when a waterway may be temporarily obstructed as a result of the tactics employed. When such obstructions are caused by the N.C. Forest Service, the agency will remove obstructions and implement BMPs afterwards to rehabilitate areas for the protection of water quality, so as to comply with the FPGs and other applicable state and federal environmental standards. Rehabilitation work usually occurs after the fire is controlled.

Disclaimer

This Interpretive Guidance Letter is nonbinding. Nothing herein shall be considered legal advice.
The interpretations and guidance in this Letter are subject to change without notice.

The circumstances of an individual case of waterway obstruction(s) may require a different determination than what is outlined in this Letter. The governing laws and/or rule standards are subject to change; if changes occur, then this Letter will be rescinded and/or revised as needed.

You should consult with legal counsel for questions concerning specific facts or circumstances regarding the applicability of any law or rule.

Pesticide Aerial Application: Restricted Areas and NPDES Permit

State Rule 02 NCAC 09L .1005 "Restricted Areas"
[NOTE: FPG rule .0206 cross-references this state rule]

"(a) No pesticide shall be applied by aircraft within the limits of any congested area except when permission is granted under F.A.R. 137.

(b) No pesticide shall be deposited by aircraft within 300 feet of the premises of schools, hospitals, nursing homes, churches, or any building (other than a residence) which is used for business or social activities if either the premises or the building is occupied by people.

(c) No pesticide shall be deposited by aircraft on the right-of-way of a public road or within 25 feet of the road, whichever is the greater distance.

(d) No pesticide labeled toxic or harmful to aquatic life shall be deposited in or near any body of water in such a manner as to be hazardous to aquatic life unless such aquatic life is the intended target of the pesticide.

(e) No pesticide shall be deposited within 100 feet of any residence.

(f) No pesticide shall be deposited onto any nontarget area in such a manner that it is more likely than not that adverse effect will occur."

Stormwater Permit NCG560000

[NOTE: Coverage under the state's NPDES Pesticide General Permit (PGP) from the NCDEQ may be required if aerial application of pesticides meet any of the thresholds below, copied from Table 1 of the the state's NCG560000 permit.]

Annual Treatment Area Thresholds that Require Coverage from Stormwater Permit NCG56 under the NPDES	
Pesticide Use	**Annual Threshold**
Mosquitoes and Other Flying Insect Pests	15,000 acres of treatment area (adulticide applications only)[(1)]
Aquatic Weed and Algae Control:	
- In Water	1,000 acres of treatment area
- At Water' Edge	200 linear miles of treatment area at water's edge
Aquatic Nuisance Animal Control:	
- In Water	200 acres of treatment area
- At Water's Edge	200 linear miles of treatment area at water's edge
Forest Canopy Pest Control	10,000 acres
Intrusive Vegetation Control	500 linear miles
[(1)] Multiple applications to the same area are added together only for mosquito and other flying pest control	

Petroleum and Hazardous Substances Spill/Notification Laws

[NOTE: This law also applies to any hazardous substances, not just petroleum.]

G.S. 143-215.83. Discharges.

"(a) Unlawful Discharges. - It shall be unlawful, except as otherwise provided in this Part, for any person to discharge, or cause to be discharged, oil or other hazardous substances into or upon any waters, tidal flats, beaches, or lands within this State, or into any sewer, surface water drain or other waters that drain into the waters of this State, regardless of the fault of the person having control over the oil or other hazardous substances, or regardless of whether the discharge was the result of intentional or negligent conduct, accident or other cause.

(b) Excepted Discharges. - This section shall not apply to discharges of oil or other hazardous substances in the following circumstances:

(1) When the discharge was authorized by an existing rule of the Commission.

(2) When any person subject to liability under this Article proves that a discharge was caused by any of the following:

a. An act of God.

b. An act of war or sabotage.

c. Negligence on the part of the United States government or the State of North Carolina or its political subdivisions.
d. An act or omission of a third party, whether any such act or omission was or was not negligent.
e. Any act or omission by or at the direction of a law-enforcement officer or fireman.

(c) Permits. - Any person who desires or proposes to discharge oil or other hazardous substances onto the land or into the waters of this State shall first make application for and secure the permit required by G.S. 143-215.1. Application shall be made pursuant to the rules adopted by the Commission. Any permit granted pursuant to this subsection may contain such terms and conditions as the Commission shall deem necessary and appropriate to conserve and protect the land or waters of this State and the public interest therein."

G.S. 143-215.84. Removal of prohibited discharges.

"(a) Person Discharging. - Except as provided in subsection (a2) of this section, any person having control over oil or other hazardous substances discharged in violation of this Article shall immediately undertake to collect and remove the discharge and to restore the area affected by the discharge as nearly as may be to the condition existing prior to the discharge. If it is not feasible to collect and remove the discharge, the person responsible shall take all practicable actions to contain, treat and disperse the discharge; but no chemicals or other dispersants or treatment materials which will be detrimental to the environment or natural resources shall be used for such purposes unless they shall have been previously approved by the Commission. The owner of an underground storage tank who is the owner of the tank only because he is the owner of the land on which the underground storage tank is located, who did not know or have reason to know that the underground storage tank was located on his property, and who did not become the owner of the land as the result of a transfer or transfers to avoid liability for the underground storage tank shall not be deemed to be responsible for a release or discharge from the underground storage tank.

(a1) The Commission shall not require collection or removal of a discharge or restoration of an affected area under subsection (a) of this section if the person having control over oil or other hazardous substances discharged in violation of this Article complies with rules governing the collection and removal of a discharge and the restoration of an affected area adopted by the Commission pursuant to G.S. 143-214.1 or G.S. 143-215.94V. This subsection shall not be construed to affect the rights of any person under this Article or any other provision of law.

(a2) Discharges of Mineral Oil From Electrical Equipment. - As used in this subsection, "mineral oil" means a light nontoxic liquid petroleum distillate used as a coolant and insulator in electrical equipment owned by a public utility. Any person having control over mineral oil discharged from electrical equipment owned by a public utility, as defined in G.S. 62-100, including, but not limited to, transformers, regulators, bushings, and capacitors, shall restore the area affected by the discharge as nearly as may be to the condition existing prior to the discharge. A person shall notify the applicable regional office of the Department by telephone, hand delivery, electronic mail, or fax when the restoration has been properly completed for a discharge that (i) exceeds 25 gallons, (ii) is directly to surface waters or causes a sheen on surface waters of the State, or (iii) is at a distance of 100 feet or less from any surface water and contains 50 parts per million or more of polychlorinated biphenyls. Where soil removal is necessary as part of a cleanup, all visible traces of the mineral oil shall be removed. For discharges of mineral oil which contain 50 parts per million or more of polychlorinated biphenyls, cleanup shall be performed in compliance with applicable provisions of the Toxic Substances Control Act, 15 U.S.C. § 2601, et seq., as amended. If it is not feasible to collect and remove the discharge of mineral oil from electrical equipment within 24 hours of confirmation of the release, the person responsible shall take all practicable actions to contain, treat, and disperse the discharge, except that no chemical or other dispersants or treatment materials which will be detrimental to the environment or natural resources shall be used for such purposes unless they shall have been previously approved by the Commission.

(b) Removal by Department. - Notwithstanding the requirements of subsections (a) and (a2) of this section, the Department is authorized and empowered to utilize any staff, equipment and materials under its control or supplied by other cooperating State or local agencies and to contract with any agent or contractor that it deems appropriate

to take such actions as are necessary to collect, investigate, perform surveillance over, remove, contain, treat or disperse oil or other hazardous substances discharged onto the land or into the waters of the State and to perform any necessary restoration. The Secretary shall keep a record of all expenses incurred in carrying out any project or activity authorized under this section, including actual expenses incurred for services performed by the State's personnel and for use of the State's equipment and material. The authority granted by this subsection shall be limited to projects and activities that are designed to protect the public interest or public property, and shall be compatible with the National Contingency Plan established pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. section 1251 et seq.

(c), (d) Repealed by Session Laws 1989, c. 656, s. 2.

(e) Notification of Completed Removal of Prohibited Discharges. - The definitions set out in G.S. 130A-310.31(b) apply to this subsection. Any person may submit a written request to the Department for a determination that a discharge of oil or a hazardous substance in violation of this Article has been remediated to unrestricted use standards. A request for a determination that a discharge has been remediated to unrestricted use standards shall be accompanied by the fee required by G.S. 130A-310.39(a)(2). If the Department determines that the discharge has been remediated to unrestricted use standards, the Department shall issue a written notification that no further remediation of the discharge will be required. The notification shall state that no further remediation of the discharge will be required unless the Department later determines, based on new information or information not previously provided to the Department, that the discharge has not been remediated to unrestricted use standards or that the Department was provided with false or incomplete information. Under any of those circumstances, the Department may withdraw the notification and require responsible parties to remediate the discharge to unrestricted use standards.

(f) In order to reduce or eliminate the danger to public health or the environment posed by a discharge or release of oil or a hazardous substance, an owner, operator, or other responsible party may impose restrictions on the current or future use of the real property comprising any part of the site if the restrictions meet the requirements of this subsection. The restrictions must be agreed to by the owner of the real property, included in a remedial action plan for the site that has been approved by the Secretary, and implemented as a part of the remedial action program for the site. The Secretary may approve restrictions included in a remedial action plan in accordance with standards determined: (i) pursuant to rules for remediation of soil or groundwater contamination adopted by the Commission; (ii) with respect to the cleanup of a discharge or release from a petroleum underground storage tank, pursuant to rules adopted by the Commission pursuant to G.S. 143-215.94V; or (iii) as provided in G.S. 130A-310.3(d). Restrictions may apply to activities on, over, or under the land, including, but not limited to, use of groundwater, building, filling, grading, excavating, and mining. Any approved restriction shall be enforced by any owner, operator, or other party responsible for the oil or hazardous substance discharge site. Any land-use restriction may also be enforced by the Department through the remedies provided in this Article, Part 2 of Article 1 of Chapter 130A of the General Statutes, or by means of a civil action. The Department may enforce any land-use restriction without first having exhausted any available administrative remedies. A land-use restriction may also be enforced by any unit of local government having jurisdiction over any part of the site. A land-use restriction shall not be declared unenforceable due to lack of privity of estate or contract, due to lack of benefit to particular land, or due to lack of any property interest in particular land. Any person who owns or leases a property subject to a land-use restriction under this Part shall abide by the land-use restriction."

G.S. 143-215.85. Required notice.

"(a) Except as provided in G.S. 143-215.94E(a1) and subsections (b) and (c) of this section, every person owning or having control over oil or other substances discharged in any circumstances other than pursuant to a rule adopted by the Commission, a regulation of the U.S. Environmental Protection Agency, or a permit required by G.S. 143-215.1 or the Federal Water Pollution Control Act, upon notice that such discharge has occurred, shall immediately

notify the Department, or any of its agents or employees, of the nature, location and time of the discharge and of the measures which are being taken or are proposed to be taken to contain and remove the discharge. The agent or employee of the Department receiving the notification shall immediately notify the Secretary or such member or members of the permanent staff of the Department as the Secretary may designate. If the discharged substance of which the Department is notified is a pesticide regulated by the North Carolina Pesticide Board, the Department shall immediately inform the Chairman of the Pesticide Board. Removal operations under this Article of substances identified as pesticides defined in G.S. 143-460 shall be coordinated in accordance with the Pesticide Emergency Plan adopted by the North Carolina Pesticide Board; provided that, in instances where entry of such hazardous substances into waters of the State is imminent, the Department may take such actions as are necessary to physically contain or divert such substance so as to prevent entry into the surface waters.

(b) As used in this subsection, "petroleum" has the same meaning as in G.S. 143-215.94A. A person who owns or has control over petroleum that is discharged into the environment shall immediately take measures to collect and remove the discharge, report the discharge to the Department within 24 hours of the discharge, and begin to restore the area affected by the discharge in accordance with the requirements of this Article if the volume of the petroleum that is discharged is 25 gallons or more or if the petroleum causes a sheen on nearby surface water or if the petroleum is discharged at a distance of 100 feet or less from any surface water body. If the volume of petroleum that is discharged is less than 25 gallons, the petroleum does not cause a sheen on nearby surface water, and the petroleum is discharged at a distance of more than 100 feet from all surface water bodies, the person who owns or has control over the petroleum shall immediately take measures to collect and remove the discharge. If a discharge of less than 25 gallons of petroleum cannot be cleaned up within 24 hours of the discharge or if the discharge causes a sheen on nearby surface water, the person who owns or has control over the petroleum shall immediately notify the Department.

(c) As used in this subsection, "mineral oil" means a light nontoxic liquid petroleum distillate used as a coolant and insulator in electrical equipment owned by a public utility. Any person who owns or has control over mineral oil discharged from electrical equipment owned by a public utility, as defined in G.S. 62-100, including, but not limited to, transformers, regulators, bushings, and capacitors, shall report the discharge to the applicable regional office of the Department within 24 hours of confirmation of a discharge when the discharge (i) exceeds 25 gallons, (ii) is directly to surface waters or causes a sheen on surface waters of the State, or (iii) is at a distance of 100 feet or less from any surface water and contains 50 parts per million or more of polychlorinated biphenyls. The notification shall include the time of discovery, address or location of the release, immediate actions taken, estimated amount of the release, and, if known, the concentration of polychlorinated biphenyls present in the discharge. This information may be submitted by telephone, hand delivery, electronic mail, or fax."

Limits on Local Government Ordinances from Restricting Forestry

[NOTE: This law is commonly known as the 'right to practice forestry' law.]

G.S. 160D-9-21. Forestry activities.

"(a) The following definitions apply to this section:

(1) Development. – Any activity, including timber harvesting, that is associated with the conversion of forestland to nonforest use.

(2) Forest management plan. – A document that defines a landowner's forest management objectives and describes specific measures to be taken to achieve those objectives. A forest management plan shall include silvicultural practices that both ensure optimal forest productivity and environmental protection of land by either commercially growing timber through the establishment of forest stands or by ensuring the proper regeneration of forest stands to commercial levels of production after the harvest of timber.

(3) Forestland. – Land that is devoted to growing trees for the production of timber, wood, and other forest products.

(4) Forestry. – The professional practice embracing the science, business, and art of creating, conserving, and managing forests and forestland for the sustained use and enjoyment of their resources, materials, or other forest products.

(5) Forestry activity. – Any activity associated with the growing, managing, harvesting, and related transportation, reforestation, or protection of trees and timber, provided that such activities comply with existing State rules and regulations pertaining to forestry.

(b) A local government shall not adopt or enforce any ordinance, rule, regulation, or resolution that regulates either of the following:

(1) Forestry activity on forestland that is taxed on the basis of its present-use value as forestland under Article 12 of Chapter 105 of the General Statutes.

(2) Forestry activity that is conducted in accordance with a forest management plan that is prepared or approved by a forester registered in accordance with Chapter 89B of the General Statutes."

Flood Plain Permits

[NOTE: Forestry activities can occur in special flood hazard areas without the need to obtain a floodplain permit, as long as it complies with the FPGs, and other applicable rules (such as Riparian Buffer Rules). A "special flood hazard area" is generally recognized to include the '100-year floodplain'.]

G.S. 143-215.54. Regulation of Flood Hazard Areas; Prohibited Uses.

"(b) The following uses may be made of flood hazard areas without a permit issued under this Part, provided that these uses comply with local land-use ordinances and any other applicable laws or regulations:

(1) General farming, pasture, outdoor plant nurseries, horticulture, forestry, mining, wildlife sanctuary, game farm, and other similar agricultural, wildlife and related uses;

(2) Ground level loading areas, parking areas, rotary aircraft ports and other similar ground level area uses;

(3) Lawns, gardens, play areas and other similar uses;

(4) Golf courses, tennis courts, driving ranges, archery ranges, picnic grounds, parks, hiking or horseback riding trails, open space and other similar private and public recreational uses.

(5) Land application of waste at agronomic rates consistent with a permit issued under Part 1 or Part 1A of Article 21 of Chapter 143 of the General Statutes or an approved animal waste management plan.

(6) Land application of septage consistent with a permit issued under G.S. 130A-291.1."

STREAM BUFFERS: Water Supply (WS) Watersheds

[NOTE: Forestry activities are exempted from this requirement, as long as it complies with the FPGs and any other applicable water quality rule not otherwise exempted. These laws/rules apply in watersheds that have a "WS" label designation from the EMC (via NC-DWR rules).]

G.S. 143-214.5. Water Supply Watershed Protection.

"(d1) A local ordinance adopted to implement the minimum statewide water supply watershed management requirements applicable to agriculture and silviculture activities shall be no more restrictive than those adopted by

the Commission. In adopting minimum statewide water supply watershed management requirements applicable to agriculture activities, the Commission shall consider the policy regarding agricultural nonpoint source discharges set out in subsection (a) of this section. The Commission may by rule designate another State agency to administer the minimum statewide water supply watershed management requirements applicable to agriculture and silviculture activities. If the Commission designates another State agency to administer the minimum statewide water supply watershed management requirements applicable to agriculture and silviculture activities, management requirements adopted by local governments shall not apply to such activities."

15A NCAC 02B .0622. Water Supply Watershed Protection Program: Exclusions and Special Cases

"This Rule describes exclusions from the water supply watershed program and special case projects in the water supply watershed program.

(2) SPECIAL CASES. In lieu of the requirements set forth in Rules .0620-.0624 of this Section, the following shall apply:

(a) Silviculture activities shall comply with the provisions of the Forest Practices Guidelines Related to Water Quality, 02 NCAC 60C, herein incorporated by reference with subsequent amendments and editions...and other applicable forestry water quality standards as determined by the North Carolina Forest Service.

(b) Agricultural activities within WS-I watersheds and the critical areas of WS-II, WS-III, and WS-IV watersheds shall be subject to the vegetated setback requirements set forth in Rule .0624(11) of this Section."

STREAM BUFFERS: Trout (Tr) Waters

[NOTE: Forestry activities are exempted from this requirement, as long as it complies with the FPGs. However, if a forestry tract loses its SPCA exemption because of a FPG Referral to DEMLR, then the requirements of this law may be enforced. The trout stream buffer requirements apply to any stream having a "Tr" label designation from the EMC (via NC-DWR rules), and also applies to any tributary that feeds into the Trout-designated stream.]

G.S. 113A-57. Mandatory Standards for Land-Disturbing Activity.

"No land-disturbing activity subject to this Article shall be undertaken except in accordance with the following mandatory requirements:

(1) No land-disturbing activity during periods of construction or improvement to land shall be permitted in proximity to a lake or natural watercourse unless a buffer zone is provided along the margin of the watercourse of sufficient width to confine visible siltation within the twenty-five percent (25%) of the buffer zone nearest the land-disturbing activity. Waters that have been classified as trout waters by the Environmental Management Commission shall have an undisturbed buffer zone 25 feet wide or of sufficient width to confine visible siltation within the twenty-five percent (25%) of the buffer zone nearest the land-disturbing activity, whichever is greater. Provided, however, that the Sedimentation Control Commission may approve plans which include land-disturbing activity along trout waters when the duration of said disturbance would be temporary and the extent of said disturbance would be minimal. This subdivision shall not apply to a land-disturbing activity in connection with the construction of facilities to be located on, over, or under a lake or natural watercourse."

CONSOLIDATED BUFFER RULE -- Forest Harvesting Requirements: Catawba, Randleman, Neuse, Tar-Pamlico

[Also see the "Definitions" section that apply to these 4 buffer rules.]
*[Also see the "Table of Uses" section for **each** Buffer Rule -- there are differences!].*

15A NCAC 02B .0612 MANAGING ACTIVITIES WITHIN RIPARIAN BUFFERS: FOREST HARVESTING REQUIREMENTS

(a) PURPOSE. The following requirements shall apply to all forest harvesting operations and forestry-related land-disturbing activities subject to riparian buffer requirements in the following River Basins and Watersheds:

(1) Catawba River Basin as specified in 15A NCAC 02B .0614;
(2) Neuse River Basin as specified in 15A NCAC 02B .0714;
(3) Randleman Lake Watershed as specified in 15A NCAC 02B .0724; and
(4) Tar-Pamlico River Basin as specified in 15A NCAC 02B .0734.

(b) REQUIREMENTS THROUGHOUT THE BUFFER. The following requirements shall apply:

(1) All forest harvest activities within the buffer shall comply with Forest Practices Guidelines Related to Water Quality as defined in 02 NCAC 60C;
(2) Logging decks and sawmill sites shall not be placed in the riparian buffer;
(3) Timber felling shall be directed away from the stream or waterbody;
(4) Skidding shall be directed away from the stream or water body and shall be done in a manner that minimizes soil disturbance and prevents the creation of channels or ruts;
(5) Individual trees may be treated to maintain or improve their health, form, or vigor;
(6) Harvesting of dead or infected trees or application of pesticides as necessary to prevent or control the spread of tree pest and disease infestation shall be allowed. These practices must be approved by the North Carolina Forest Service for a specific site in accordance with G.S. 106-920 through G.S. 106-926. The N.C. Forest Service must notify the Division of all approvals within 60 calendar days;
(7) Removal of individual trees that are in danger of causing damage to structures or human life shall be allowed;
(8) Natural regeneration of forest vegetation and planting of trees, shrubs, or ground cover plants to enhance the riparian buffer shall be allowed provided that soil disturbance is minimized;
(9) Prescribed burns shall be allowed when conducted for forest management purposes; and
(10) A one-time fertilizer application at agronomic rates in the riparian buffer is allowed to establish replanted vegetation. No runoff from this one-time application in the riparian buffer is allowed in the surface water.

(c) REQUIREMENTS IN ZONE 1 OF THE BUFFER. Selective forest harvesting is allowed in Zone 1, as defined by the applicable Rule of this Section, provided that:

(1) The forest lands have a deferment for use value under forestry in accordance with G.S. 105-277.2 through 277.6 or the forest lands have a forest management plan prepared or approved by a registered professional forester. Copies of either the approval of the deferment for use value under forestry or the forest management plan shall be produced upon request by the N.C. Forest Service or the Division;
(2a) Tracked or wheeled vehicles are only used for the purpose of selective timber harvesting where there is no other practical alternative for removal of individual trees;
(2b) No tracked or wheeled vehicles shall be used to conduct site preparation activities;
(3) Trees are removed in a manner that minimizes disturbance to the soil and remaining vegetation;
(4) The first 10 feet of Zone 1 directly adjacent to the stream or waterbody shall be undisturbed, except for the removal of individual high value trees. The removal of individual high value trees shall only

be allowed provided that no trees with exposed primary roots visible in the streambank are cut, unless they meet Subparagraphs (b)(6) or (b)(7) of this Rule; and

(5) A maximum of 50 percent of the trees greater than five inches DBH may be cut and removed. The reentry time for harvest shall be no more frequent than every 15 years, except on forest plantations as defined in 15A NCAC 02B .0610 where the reentry time shall be no more frequent than every five years. In either case, the trees remaining after harvest shall be as evenly spaced as possible.

(d) REQUIREMENTS IN ZONE 2 OF THE BUFFER. In Zone 2, harvesting and regeneration of the forest stand shall be allowed, provided that ground cover is established and maintained to provide for diffusion and infiltration of surface runoff.

(e) EXCEPTIONS. Persons who wish to undertake forest harvesting operations or practices different from the requirements set forth in this Rule may request an Authorization Certificate with Exception pursuant to Rule .0611 of this Subchapter.

CONSOLIDATED BUFFER RULE -- Definitions

[These definitions apply to the Catawba, Goose Creek, Randleman, Neuse and Tar-Pamlico buffer rule areas.]
[Jordan Lake has its own set of definitions.]
[NOTE >> Cited below are only the terms that may apply to forestry.]

15A NCAC 02B .0610 MANAGING ACTIVITIES WITHIN RIPARIAN BUFFERS: DEFINITIONS

For the purposes of this Section, the following words and phrases shall mean:

...

(3) "Authority" means either the Division or a local government that has been delegated pursuant this Section to implement a riparian buffer program.

(4) "Bridge" means any spanning structure that begins and ends at the outer edge of the approach slabs and includes any support structures such as bents, pilings, footings, etc.

(5) "Built-upon area" means the term as defined in G.S. 143-214.7(b2).

(6) "Channel" means a natural water-carrying trough cut vertically into low areas of the land surface by erosive action of concentrated flowing water or a ditch or canal excavated for the flow of water.

(7) "Coastal wetlands" means marshland as defined in G.S. 113-229.

(8) "Dam" means the term as defined in G.S. 143-215.25.

(9) "DBH" means diameter at breast height of a tree measured at 4.5 feet above ground surface level.

(10) "Development" means the term as defined in G.S. 143-214.7.

(11) "Director" means the Director of the Division.

(12) "Ditch or canal" means a man-made, open drainage way or channel other than a modified natural stream in or into which excess surface water or groundwater from land, stormwater runoff, or floodwaters flow either ephemerally, intermittently, or perennially. On the coastal plain, ditches are typically dug through inter-stream divide areas.

(13) "Division" means the Division of Water Resources of the North Carolina Department of Environmental Quality.

(14) "Ephemeral stream" means a feature that carries only stormwater in direct response to precipitation with water flowing only during and shortly after precipitation events. An ephemeral stream may or may not have a well-defined channel, the aquatic bed is always above the perched or seasonal high water table, and stormwater runoff is the primary source of water. An ephemeral stream typically lacks the biological, hydrological, and physical characteristics commonly associated with the continuous or intermittent conveyance of water.

...

(16) "Existing utility line maintenance corridor" means the portion of a utility right of way that was established as a permanent maintenance corridor prior to the effective date of the Rule, or was approved as a permanent maintenance corridor through an Authorization Certificate or Variance issued by the Authority, and in which the vegetation has been maintained (e.g. can be mowed without a chainsaw or bush-hog).
(17) "Fertilizer" means the term as defined in Rule .0202 of this Subchapter.
(18) "Forest management plan" means the term as defined in G.S. 160A-458.5.
(19) "Forest plantation" means an area of planted trees that may be conifers (pines) or hardwoods. On a forest plantation, the intended crop trees are planted rather than naturally regenerated from seed on the site, coppice (sprouting), or seed that is blown or carried into the site.
(20) "Forest vegetation" means the term as defined in Rule .0202 of this Subchapter.
(21) "Freshwater" means the term as defined in Rule .0202 of this Subchapter.
(22) "Greenway / Hiking Trails" means pedestrian trails constructed of pervious and impervious surfaces and related structures including boardwalks, steps, rails, and signage, and that generally run parallel to the surface water.
(23) "High value tree" means a tree that meets or exceeds the following standards: for pine species, 14-inch DBH or greater or 18-inch or greater stump diameter; or for non-pine species, 16-inch DBH or greater or 24-inch or greater stump diameter.
(24) "Intermittent stream" means a well-defined channel that contains water for only part of the year, typically during winter and spring when the aquatic bed is below the perched or seasonal high water table. The flow may be supplemented by stormwater runoff. An intermittent stream often lacks the biological and hydrological characteristics commonly associated with the continuous conveyance of water.
(25) "Local government" means the term as defined in Rule .0202 of this Subchapter.
(26) "Modified natural stream" means an on-site channelization or relocation of a stream channel and subsequent relocation of the intermittent or perennial flow as evidenced by topographic alterations in the immediate watershed. A modified natural stream must have the typical biological, hydrological, and physical characteristics commonly associated with at least an intermittent conveyance of water.
(27) "Natural drainageway" means any water course, channel, ditch, or similar physiographic feature draining water from land to down gradient areas.
(28) "Normal water level" means the water level within a pond, lake, or other type of impoundment, natural or man-made (including beaver ponds), at the elevation of the outlet structure or spillway (i.e., the elevation of the permanent pool). The normal water level is typically identified by the lowest edge of the terrestrial vegetation.
(29) "Perched water table" means the term as defined in 15A NCAC 18A .1935.
(30) "Perennial stream" means a well-defined channel that contains water year round during a year of normal rainfall with the aquatic bed located below the perched or seasonal high water table for most of the year. Groundwater is the primary source of water for a perennial stream, but it also carries stormwater runoff. A perennial stream exhibits the typical biological, hydrological, and physical characteristics commonly associated with the continuous conveyance of water.
(31) "Perennial waterbody" means a natural or man-made watershed that stores surface water permanently at depths sufficient to preclude growth of rooted plants, including lakes, ponds, sounds, non-stream estuaries and ocean.
(32) "Perpendicular" means leading toward the nearest subject surface water at an angle between 75 and 105 degrees.
(33) "Pruning" means the removal of dead tree or shrub branches or live tree or shrub branches with a diameter of less than four inches.
    (a) Pruning for Deciduous Trees: If pruning must be done on deciduous trees, then it shall only be performed once a year during the dormant season or following an "act of God" situation, such as a hurricane or ice storm that causes tree damage. Dead branches on trees may be removed any time.
    (b) Pruning for Coniferous Trees: Conifers may be pruned any time of year. Dead branches on trees may be removed any time.

(c) Pruning for Shrubs: Shrubs may be pruned by selectively removing branches while maintaining the natural shape of the plant. Cutting the branches of a shrub down to its main trunk is not a selective removal of branches.

(34) "Seasonal high water table" means the term as defined in 15A NCAC 02H .1002.

(35) "Streambank or shoreline stabilization" is the in-place stabilization of an eroding streambank or shoreline.

(36) "Stormwater Control Measure" or "SCM," also known as "Best Management Practice" or "BMP," means the term as defined in 15A NCAC 02H .1002.

(37) "Stump diameter" means the diameter of a tree measured at six inches above the ground surface level.

(38) "Temporary road" means a road constructed temporarily for access or to maintain public traffic during construction and is restored upon completion of construction.

(39) "Transportation facility" means the existing road surface, road shoulders, fill slopes, ferry terminal fill areas, and constructed stormwater conveyances or drainage canals adjacent to and directly associated with the road.

(40) "Tree" means a woody plant with a DBH equal to or exceeding five inches or a stump diameter exceeding six inches.

(41) "Wetlands" means the same as defined in Rule .0202 of this Subchapter.

BUFFER RULE, CATAWBA: Table of Uses & Other Provisions

[Below are excerpts from the Catawba Buffer Rule that may apply to forestry. To see the full rule, click on the embedded link in the rule's title.]

15A NCAC 02B .0614 CATAWBA RIVER BASIN: PROTECTION AND MAINTENANCE OF EXISTING RIPARIAN BUFFERS

The following is the management strategy for maintaining and protecting existing riparian buffers along the Catawba River mainstem below Lake James and along mainstem lakes from and including Lake James to the North Carolina and South Carolina border in the Catawba River Basin.

(1) PURPOSE. The purpose of this Rule shall be to maintain and protect existing riparian buffers along the Catawba River mainstem below Lake James and along mainstem lakes from and including Lake James to the North Carolina and South Carolina border in the Catawba River Basin in order to maintain their pollutant removal functions as an aid in protecting the water quality of the lakes and connecting river segments.

(2) DEFINITIONS. The terms used in this Rule shall be as defined in Rule .0610 of this Section and as follows:

(a) "Authority" means either the Division or a local government that has been delegated pursuant this Rule to implement the riparian buffer program.

(b) "Riparian buffer" means the area as defined in Item (4) of this Rule.

(c) "Full Pond Level" is a term used by Duke Energy Inc. that refers to the project water level, referenced to mean sea level, for each of the seven mainstem lakes along the Catawba River. The landward edge of the lakes at full pond level represents the project boundary for each lake.

(d) "Mainstem lakes" means the following impoundments created along the mainstem of the Catawba River: Lake James, Lake Rhodhiss, Lake Hickory, Lookout Shoals Lake, Lake Norman, Mountain Island Lake and Lake Wylie (North Carolina portion).

(3) APPLICABILITY. This Rule applies to all landowners and other persons including local governments, state and federal entities conducting activities within the riparian buffers as described in Item (4) of this Rule in the Catawba River Basin.

(4) BUFFERS PROTECTED. The following minimum criteria shall be used for identifying regulated riparian buffers:

(a) This Rule shall apply to activities conducted within 50-foot wide riparian buffers along the Catawba River mainstem below Lake James and along the mainstem lakes in the Catawba River Basin, excluding wetlands;

(b) Wetlands adjacent to surface waters or within 50 feet of surface waters shall be considered as part of the riparian buffer but are regulated pursuant to 15A NCAC 02H .0506;

(c) Stormwater runoff from activities conducted outside the riparian buffer shall comply with Item (8) of this Rule;

(d) Riparian buffers protected by this Rule shall be measured pursuant to Item (7) of this Rule;

(e) A riparian buffer may be exempt from this Rule as described in Items (5) and (6) of this Rule;

(f) No new clearing, grading or development shall take place nor shall any new building permits be issued in violation of this Rule.

..._...

(6) EXEMPTION FOR PONDS CONSTRUCTED AND USED FOR AGRICULTURAL PURPOSES. This Rule shall not apply to a freshwater pond if all of the following conditions are met:

(a) The property on which the pond is located is used for agriculture as that term is defined in G.S. 106-581.1.

(b) Except for this Rule, the use of the property is in compliance with all other water quality and water quantity statutes and rules applicable to the property before July 22, 1997.

(c) The pond is not a component of an animal waste management system as defined in G.S. 143-215.10B(3).

(7) ZONES OF THE RIPARIAN BUFFER. The protected riparian buffer shall have two zones as follows:

(a) Zone 1 shall consist of a vegetated area that is undisturbed except for uses provided for in Items (8) and (9) of this Rule. The location of Zone 1 shall be as follows:

(i) For the Catawba River mainstem below Lake James, Zone 1 shall begin at the most landward limit of the top of the bank and extend landward a distance of 30 feet on all sides of the river, measured horizontally on a line perpendicular to the river.

(ii) For the mainstem lakes located on the Catawba River mainstem, Zone 1 shall begin at the full pond level and extend landward a distance of 30 feet, measured horizontally on a line perpendicular to the lake.

(b) Zone 2 shall consist of a stable, vegetated area that is undisturbed except for uses provided for in Items (8) and (9) of this Rule. Grading and revegetating Zone 2 is allowed provided that the health of the vegetation in Zone 1 is not compromised. Zone 2 shall begin at the outer edge of Zone 1 and extend landward 20 feet as measured horizontally on a line perpendicular to the surface water. The combined width of Zones 1 and 2 shall be 50 feet on all sides of the surface water along the Catawba River mainstem below Lake James and along mainstem lakes in the Catawba River Basin.

(8) STORMWATER RUNOFF THROUGH THE RIPARIAN BUFFER. Stormwater runoff into the riparian buffer shall meet dispersed flow as defined in 15A NCAC 02H .1002 except as otherwise described in this Item. Drainage conveyances include drainage ditches, roadside ditches, and stormwater conveyances.

..._...

(10) TABLE OF USES: The following table sets out potential new uses within the riparian buffer, or outside the riparian buffer with hydrological impacts on the riparian buffer, and designates them as deemed allowable, allowable upon authorization, allowable with mitigation upon authorization, or prohibited:

Use	Deemed Allowable	Allowable Upon Authorization	Allowable with Mitigation Upon Authorization	Prohibited
(c) Bridges:				
(i) Impact equal to or less than one-tenth of an acre of riparian buffer	X			
(ii) Impact greater than one-tenth of an acre of riparian buffer		X		
(d) Dam maintenance activities:				
(i) Dam maintenance activities that do not cause additional riparian buffer disturbance beyond the footprint of the existing dam	X			
(ii) Dam maintenance activities that do cause additional riparian buffer disturbance beyond the footprint of the existing dam		X		
..._...				
(f) Fertilizer:				
(i) One-time fertilizer application at agronomic rates in the riparian buffer to establish replanted vegetation. No runoff from this one-time application in the riparian buffer is allowed in the surface water	X			

Use	Deemed Allowable	Allowable Upon Authorization	Allowable with Mitigation Upon Authorization	Prohibited
(ii) Ongoing fertilizer application				X
(g) Forest harvesting - see Rule .0612 of this Section				
(h) Grading only in Zone 2 provided that the health of existing vegetation in Zone 1 is not compromised, Item (8) of this Rule is complied with, and disturbed areas are stabilized and revegetated	X			
..._...				
(x) Road, driveway or railroad - perpendicular crossings of surface waters subject to this Rule: (i) Impact equal to or less than one-tenth of an acre of riparian buffer	X			
(ii) Impact greater than one-tenth of an acre but equal to or less than one-third of an acre of riparian buffer		X		
(iii) Impact greater than one-third of an acre of riparian buffer			X	
(iv) Driveway crossings in a residential subdivision that cumulatively impact equal to or less than one-third of an acre of riparian buffer		X		
(v) Driveway crossings in a residential subdivision that cumulatively impact greater than one-third of an acre of riparian buffer			X	
(vi) Farm roads and forest roads that are exempt from permitting from the U.S. Army Corps of Engineers per Section 404(f) of the Federal Clean Water Act	X			
..._...				
(dd) Temporary roads, provided that the disturbed area is restored to pre-construction topographic and hydrologic conditions and replanted with comparable vegetation within two months of when construction is complete. Tree planting may occur during the dormant season. At the end of five years, any restored wooded riparian buffer shall comply with the restoration criteria in Rule .0295(i) of this Subchapter: (i) Less than or equal to 2,500 square feet of riparian buffer disturbance	X			
(ii) Greater than 2,500 square feet of riparian buffer disturbance		X		
(iii) Associated with culvert installation, bridge construction or replacement		X		
..._...				
(qq) Vegetation management: (i) Emergency fire control measures provided that topography is restored	X			
(ii) Periodic mowing and harvesting of plant products only in Zone 2	X			
(iii) Placement of mulch ring around restoration plantings for a period of five years from the date of planting	X			

Use	Deemed Allowable	Allowable Upon Authorization	Allowable with Mitigation Upon Authorization	Prohibited
(iv) Planting non-invasive vegetation to enhance the riparian buffer	X			
(v) Pruning forest vegetation provided that the health and function of the forest vegetation is not compromised	X			
(vi) Removal of individual trees, branches or limbs which are in danger of causing damage to dwellings, existing utility lines, other structures or human life, or are imminently endangering stability of the streambank provided that the stumps are left or ground in place without causing additional land disturbance	X			
(vii) Removal of individual trees which are dead, diseased or damaged	X			
(viii) Removal of poison ivy, oak or sumac. Removal can include application of pesticides within the riparian buffer if the pesticides are certified by EPA for use in or near aquatic sites and are applied in accordance with the manufacturer's instructions. If removal is significant, then the riparian buffer shall be replanted with non-invasive species	X			
(ix) Removal of understory nuisance vegetation listed in Appendix III of: Smith, Cherri L. 2008. Invasive Plants of North Carolina. Dept. of Transportation. Raleigh, NC. Removal can include application of pesticides within the riparian buffer is the pesticides are certified by EPA for use in or near aquatic sites and are applied in accordance with the manufacturer's instructions. If removal is significant, then the riparian buffer shall be replanted with non-invasive species.	X			
(ss) View corridors: (i) Thinning of underbrush, shrubs, and limbs up to 50% of individual tree height to enhance a lake view provided soils are undisturbed, Item (8) of this Rule is complied with and no stems of woody vegetation larger than 3" DBH are removed	X			
(ii) Thinning of underbrush, shrubs, and limbs above 50% of individual tree height to enhance a lake view provided soils are undisturbed, Item (8) of this Rule is complied with and no stems of woody vegetation larger than 3" DBH are removed		X		

(13) DELEGATION OF AUTHORITY FOR THE PROTECTION AND MAINTENANCE OF EXISTING RIPARIAN BUFFER. The following set out the requirements for delegation of the responsibility for implementing and enforcing the Catawba River riparian buffer protection program, as described in this Rule, to local governments not previously approved by the Division:

..._...

(b) The Division has jurisdiction to the exclusion of local governments to implement the requirements of this Rule for the following types of activities:
(i) Activities undertaken by the State;
(ii) Activities undertaken by the United States;
(iii) Activities undertaken by multiple jurisdictions;
(iv) Activities undertaken by local units of government;
(v) Forest harvest activities described in Rule .0612 of this Section; and
(vi) Agricultural activities.

BUFFER RULE, RANDLEMAN LAKE: Table of Uses & Other Provisions

[Below are excerpts from the Randleman Lake watershed Buffer Rule that may apply to forestry. To see the full rule, click on the embedded link in the rule's title.]

[NOTE >> This rule has a 'kick-in' clause, meaning if there is a regulated stream or ditch on-the-ground, then it is subject to this Buffer Rule].

15A NCAC 02B .0724 RANDLEMAN LAKE WATER SUPPLY WATERSHED: PROTECTION AND MAINTENANCE OF EXISTING RIPARIAN BUFFERS

Protection of the pollutant removal and other water quality services provided by riparian buffers throughout the watershed is an important element of the overall Randleman Lake water supply pollutant strategy. The following is the management strategy for maintaining and protecting riparian areas in the Randleman Lake watershed:

(1) PURPOSE. The purposes of this Rule shall be for the local governments listed in this Rule, and in certain cases stated in this Rule the Division, to maintain and protect existing riparian buffers throughout the Randleman Lake watershed as generally described in this Rule, in order to maintain their nutrient removal and stream protection functions. Additionally, this Rule will help protect the water supply uses of Randleman Lake and of designated water supplies throughout the Randleman Lake water supply watershed. Terms used in this Rule shall be as defined in Rule .0610 of this Subchapter.

(2) APPLICABILITY. This Rule shall apply to landowners and other persons including local governments, state and federal entities conducting activities within the riparian buffers as described in Item (3) of this Rule in the Randleman Lake watershed.

(3) BUFFERS PROTECTED. The following minimum criteria shall be used for identifying regulated riparian buffers:
(a) A surface water shall be subject to this Rule if the feature is approximately shown on any of the following references, or if there is other site specific evidence that indicates to the Authority the presence of waters not shown on any of these references:
(i) The United States Geological Survey's (USGS) National Map, available online at: https://www.usgs.gov/core-science-systems/national-geospatial-program/national-map;
(ii) The most recent version of the published manuscript of the soil survey map that shows stream layers prepared by the Natural Resource Conservation Service of the United States Department of Agriculture; or
(iii) Other maps approved by the Environmental Management Commission as more accurate than those identified in Sub-Item (3)(a)(i) and (3)(a)(ii) of this Rule. Other maps shall use a hydrography dataset developed using hydrography specifications and standard metadata approved by the Geographic Information Coordinating Council (GICC) and maintained on a GICC list of the best available hydrography. Edits, deletions and additions to the hydrography dataset shall follow GICC approved standards and specifications, per stewardship governance. Other maps shall have their hydrography dataset and procedures for edits, deletions and additions reviewed and approved by the GICC. Other maps shall be submitted to the Division for review and recommendation to the Environmental Management Commission. Prior to recommendation to the Environmental Management Commission, the Division shall issue a 30-day public notice through the Division's Mailing List in accordance with 15A NCAC 02H .0503. Division staff shall present recommendations including comments received during the public notice period to the Environmental Management Commission

for a final decision. Maps approved under this Sub-Item shall not apply to projects that are existing and ongoing within the meaning of this Rule as set out in Item (6) of this Rule;

(b) This Rule shall apply to activities conducted within 50 foot wide riparian buffers directly adjacent to surface waters in the Randleman Lake watershed (intermittent and perennial streams, lakes, reservoirs, and ponds) excluding wetlands;

(c) Wetlands adjacent to surface waters or within 50 feet of surface waters shall be considered as part of the riparian buffer but are regulated pursuant to 15A NCAC 02H .0506;

(d) Stormwater runoff from activities conducted outside the riparian buffer shall comply with Item (9) of this Rule;

(e) Riparian buffers protected by this Rule shall be measured pursuant to Item (8) of this Rule;

(f) A riparian buffer may be exempt from this Rule as described in Items (5), (6) and (7) of this Rule; and

(g) No new clearing, grading, or development shall take place nor shall any new building permits be issued in violation of this Rule.

(4) ON-SITE DETERMINATION. When a landowner or other affected party believes that the maps listed in Sub-Item (3)(a) of this Rule have inaccurately depicted surface waters or the specific origination point of a stream, or the specific origination point of a stream is in question or unclear, he or she shall request the Authority to make an on-site determination. On-site determinations shall be made by Authority staff that are certified pursuant to G.S. 143-214.25A. Registered Foresters under Chapter 89B of the General Statutes who are employees of the North Carolina Forest Service of the Department of Agriculture and Consumer Services can make on-site determinations for forest harvesting operations and practices. Local governments may accept the results of an on-site determination made by other parties who have successfully completed the Division's Surface Water Identification Training Certification course, its successor, or other equivalent training curriculum approved by the Division. On-site determinations shall expire five years from the date of the determination. Any disputes over on-site determinations shall be referred to the Director in writing within 60 calendar days of written notification from the Authority. The Director's determination is subject to review as provided in Articles 3 and 4 of G.S. 150B.

(5) EXEMPTION BASED ON ON-SITE DETERMINATION. Surface waters that appear on the maps listed in Sub-Item (3)(a) of this Rule shall not be subject to this Rule if an on-site determination shows that they fall into one of the following categories:

(a) Ditches and manmade conveyances, to include manmade stormwater conveyances, other than modified natural streams, unless the ditch or manmade conveyance delivers untreated stormwater runoff from an adjacent source directly to an intermittent or perennial stream;

(b) The absence on the ground of a corresponding perennial waterbody, intermittent waterbody, lake, reservoir or pond;

(c) Ephemeral streams; and

(d) Manmade ponds and lakes that are not fed by an intermittent or perennial stream or do not have a direct discharge point to an intermittent or perennial stream.

..._...

(7) EXEMPTION FOR PONDS CONSTRUCTED AND USED FOR AGRICULTURAL PURPOSES. This Rule shall not apply to a freshwater pond if all of the following conditions are met:

(a) The property on which the pond is located is used for agriculture as that term is defined in G.S. 106-581.1.

(b) Except for this Rule, the use of the property is in compliance with all other water quality and water quantity statutes and rules applicable to the property before April 1, 1999.

(c) The pond is not a component of an animal waste management system as defined in G.S. 143-215.10B (3).

(8) ZONES OF THE RIPARIAN BUFFER. The protected riparian buffer shall have two zones as follows:

(a) Zone 1 shall consist of a vegetated area that is undisturbed except for uses provided for in Items (9) and (11) of this Rule. The location of Zone 1 shall be as follows:

(i) For intermittent and perennial streams, Zone 1 shall begin at the most landward limit of the top of the bank or the rooted herbaceous vegetation and extend landward a distance of 30 feet on all sides of the stream, measured horizontally on a line perpendicular to the stream (where an intermittent or perennial stream begins or ends, including when it goes underground, enters or exits a culvert, or enters or exits a wetland, the required distance shall be measured as a radius around the beginning or the end); and

(ii) For ponds, lakes and reservoirs subject to this Rule, Zone 1 shall begin at the normal water level and extend landward a distance of 30 feet, measured horizontally on a line perpendicular to the surface water.

(b) Zone 2 shall consist of a stable, vegetated area that is undisturbed except for uses provided for in Items (9) and (11) of this Rule. Grading and revegetating Zone 2 is allowed provided that the health of the vegetation in

Zone 1 is not compromised. Zone 2 shall begin at the outer edge of Zone 1 and extend landward 20 feet as measured horizontally on a line perpendicular to the surface water. The combined width of Zones 1 and 2 shall be 50 feet on all sides of the surface water.

(9) STORMWATER RUNOFF THROUGH THE RIPARIAN BUFFER. Stormwater runoff into the riparian buffer shall meet dispersed flow as defined in 15A NCAC 02H .1002 except as otherwise described in this Item. Drainage conveyances include drainage ditches, roadside ditches, and stormwater conveyances

..._...

(11) TABLE OF USES: The following table sets out potential new uses within the riparian buffer, or outside the riparian buffer with hydrological impacts on the riparian buffer, and designates them as deemed allowable, allowable upon authorization allowable with mitigation upon or prohibited:

Use	Deemed Allowable	Allowable Upon Authorization	Allowable with Mitigation Upon Authorization	Prohibited
(c) Bridges: (i) Impact equal to or less than one-tenth of an acre of riparian buffer	X			
(ii) Impact greater than one-tenth of an acre of riparian buffer		X		
(d) Dam maintenance activities: (i) Dam maintenance activities that do not cause additional riparian buffer disturbance beyond the footprint of the existing dam	X			
(ii) Dam maintenance activities that do cause additional riparian buffer disturbance beyond the footprint of the existing dam		X		
..._...				
(g) Fertilizer application: (i) One-time fertilizer application at agronomic rates in the riparian buffer to establish replanted vegetation. No runoff from this one-time application in the riparian buffer is allowed in the surface water	X			
(ii) Ongoing fertilizer application				X
(h) Forest harvesting - see Rule .0612 of this Subchapter				
(i) Grading in only Zone 2 provided that the health of existing vegetation in Zone 1 is not compromised, Item (9) of this Rule is complied with, and disturbed areas are stabilized and revegetated	X			
..._...				
(w) Road, driveway or railroad - perpendicular crossings of streams and other surface waters subject to this Rule: (i) Impact equal to or less than one-tenth of an acre of riparian buffer	X			
(ii) Impact greater than one-tenth of an acre but equal to or less than one-third of an acre of riparian buffer		X		
(iii) Impact greater than one-third of an acre of riparian buffer			X	
(iv) Driveway crossings in a residential subdivision that cumulatively impact equal to or less than one-third of an acre of riparian buffer		X		

Use	Deemed Allowable	Allowable Upon Authorization	Allowable with Mitigation Upon Authorization	Prohibited
(v) Driveway crossings in a residential subdivision that cumulatively impact greater than one-third of an acre of riparian buffer			X	
(vi) Farm roads and forest roads that are exempt from permitting from the U.S. Army Corps of Engineers per Section 404(f) of the Federal Clean Water Act	X			
(dd) Temporary roads provided that the disturbed area is restored to pre-construction topographic and hydrologic conditions and replanted with comparable vegetation within two months of when construction is complete. Tree planting may occur during the dormant season. At the end of five years, any restored wooded riparian buffer shall comply with the restoration criteria in Rule .0295(i) of this Subchapter: (i) Less than or equal to 2,500 square feet of riparian buffer disturbance	X			
(ii) Greater than 2,500 square feet of riparian buffer disturbance		X		
(iii) Associated with culvert installation or bridge construction or replacement		X		
(ii) In Zones 1 and 2 to control impacts associated with uses identified in this Table or uses that have received an Authorization Certificate with Exception provided that sediment and erosion control for upland areas is addressed outside the riparian buffer		X		
(qq) Vegetation management: (i) Emergency fire control measures provided that topography is restored	X			
(ii) Periodic mowing and harvesting of plant products only in Zone 2	X			
(iii) Placement of mulch ring around restoration plantings for a period of five years from the date of planting	X			
(iv) Planting non-invasive vegetation to enhance the riparian buffer	X			
(v) Pruning forest vegetation provided that the health and function of the forest vegetation is not compromised	X			
(vi) Removal of individual trees, branches or limbs which are in danger of causing damage to dwellings, existing utility lines, other structures or human life, or are imminently endangering stability of the streambank provided that the stumps are left or ground in place without causing additional land disturbance	X			
(vii) Removal of individual trees that are dead, diseased or damaged	X			

Use	Deemed Allowable	Allowable Upon Authorization	Allowable with Mitigation Upon Authorization	Prohibited
(viii) Removal of poison ivy, oak or sumac. Removal can include application of pesticides within the riparian buffer if the pesticides are certified by EPA for use in or near aquatic sites and are applied in accordance with the manufacturer's instructions. If removal is significant, then the riparian buffer shall be replanted with non-invasive species	X			
(ix) Removal of understory nuisance vegetation as defined in: Smith, Cherri L. 2008. Invasive Plants of North Carolina. NCDOT-Raleigh, NC. Removal can include application of pesticides within the riparian buffer is the pesticides are certified by EPA for use in or near aquatic sites and are applied in accordance with the manufacturer's instructions. If removal is significant, then the riparian buffer shall be replanted with non-invasive species	X			
(x) Removal of woody vegetation in Zone 1 provided that Item (9) of this Rule is complied with			X	

BUFFER RULE, NEUSE: Table of Uses & Other Provisions

[Below are excerpts from the Neuse River Basin buffer rule that may apply to forestry. To see the full rule, click on the embedded link in the rule's title.]

15A NCAC 02B .0714 NEUSE RIVER BASIN: NUTRIENT SENSITIVE WATERS MANAGEMENT STRATEGY: PROTECTION AND MAINTENANCE OF EXISTING RIPARIAN BUFFERS

The following is the management strategy for maintaining and protecting existing riparian buffers in the Neuse River Basin.

(1) PURPOSE. The purpose of this Rule shall be to maintain and protect existing riparian buffers in the Neuse River Basin, including the Falls of the Neuse Reservoir watershed, to maintain their nutrient removal functions. Terms used in this Rule shall be as defined in Rule .0610 of this Subchapter.

(2) APPLICABILITY. This Rule applies to all landowners and other persons including local governments, state and federal entities conducting activities within the riparian buffers as described in Item (3) of this Rule in the Neuse River Basin, including the Falls of the Neuse Reservoir watershed.

(3) BUFFERS PROTECTED. The following minimum criteria shall be used for identifying regulated riparian buffers:

(a) A surface water shall be subject to this Rule if the feature is approximately shown on any of the following references:

(i) The most recent version of the published manuscript of the soil survey map that shows stream layers prepared by the Natural Resources Conservation Service of the United States Department of Agriculture;

(ii) The United States Geologic Survey's (USGS) National Map, available online at: https://www.usgs.gov/core-science-systems/national-geospatial-program/national-map; or

(iii) Other maps approved by the Environmental Management Commission as more accurate than those identified in Sub-Item (3)(a)(i) and (3)(a)(ii) of this Rule. Other maps shall use a hydrography dataset developed using hydrography specifications and standard metadata approved by the

Geographic Information Coordinating Council (GICC) and maintained on a GICC list of the best available hydrography. Edits, deletions and additions to the hydrography dataset shall follow GICC approved standards and specifications, per stewardship governance. Other maps shall have their hydrography dataset and procedures for edits, deletions and additions reviewed and approved by the GICC. Other maps shall be submitted to the Division for review and recommendation to the Environmental Management Commission. Prior to recommendation to the Environmental Management Commission, the Division shall issue a 30-calendar day public notice through the Division's Mailing List in accordance with 15A NCAC 02H .0503. Division staff shall present recommendations including comments received during the public notice period to the Environmental Management Commission for a final decision. Maps approved under this Sub-Item shall not apply to projects that are existing and ongoing within the meaning of this Rule as set out in Item (6) of this Rule;

(b) This Rule shall apply to activities conducted within 50-foot wide riparian buffers directly adjacent to surface waters in the Neuse River Basin (intermittent streams, perennial streams, lakes, ponds, reservoirs and estuaries), excluding wetlands;

(c) Wetlands adjacent to surface waters or within 50 feet of surface waters shall be considered as part of the riparian buffer but are regulated pursuant to 15A NCAC 02H .0506;

(d) Stormwater runoff from activities conducted outside the riparian buffer shall comply with Item (9) of this Rule;

(e) Riparian buffers protected by this Rule shall be measured pursuant to Item (8) of this Rule;

(f) A riparian buffer may be exempt from this Rule as described in Items (5), (6) and (7) of this Rule; and

(g) No new clearing, grading or development shall take place nor shall any new building permits be issued in violation of this Rule.

..._...

(5) EXEMPTION BASED ON ON-SITE DETERMINATION. Surface waters that appear on the maps listed in Sub-Item (3)(a) of this Rule shall not be subject to this Rule if an on-site determination shows that they fall into one of the following categories:

(a) Ditches and manmade conveyances other than modified natural streams unless constructed for navigation or boat access.

(b) Manmade ponds and lakes that are not fed by an intermittent or perennial stream or do not have a direct discharge point to an intermittent or perennial stream.

(c) Ephemeral streams.

(d) The absence on the ground of a corresponding perennial waterbody, intermittent waterbody, lake, pond or estuary.

..._...

(7) EXEMPTION FOR PONDS CONSTRUCTED AND USED FOR AGRICULTURAL PURPOSES. This Rule shall not apply to a freshwater pond if all of the following conditions are met:

(a) The property on which the pond is located is used for agriculture as that term is defined in G.S. 106-581.1.

(b) Except for this Rule, the use of the property is in compliance with all other water quality and water quantity statutes and rules applicable to the property before July 22, 1997.

(c) The pond is not a component of an animal waste management system as defined in G.S. 143-215.10B (3).

(8) ZONES OF THE RIPARIAN BUFFER. The protected riparian buffer shall have two zones as follows:

(a) Zone 1 shall consist of a vegetated area that is undisturbed except for uses provided for in Items (9) and (11) of this Rule. The location of Zone 1 shall be as follows:

(i) For intermittent and perennial streams, Zone 1 shall begin at the most landward limit of the top of bank or the rooted herbaceous vegetation and extend landward a distance of 30 feet on all sides of the stream, measured horizontally on a line perpendicular to the stream (where an intermittent or perennial stream begins or ends, including when it goes underground, enters or exits a culvert, or enters or exits a wetland, the required distance shall be measured as a radius around the beginning or the end).

(ii) For ponds, lakes and reservoirs subject to this Rule, Zone 1 shall begin at the normal water level and extend landward a distance of 30 feet, measured horizontally on a line perpendicular to the surface water.

(iii) For surface waters within the 20 Coastal Counties (defined in Rule .0202 of this Subchapter) and within the jurisdiction of the Division of Coastal Management, Zone 1 shall begin at the most landward limit of the normal high water level or the normal water level and extend landward a distance of 30 feet, measured horizontally on a line perpendicular to the surface water, whichever is more restrictive.

(b) Zone 2 shall consist of a stable, vegetated area that is undisturbed except for activities and uses provided for in Items (9) and (11) of this Rule. Grading and revegetating Zone 2 is allowed provided that the health of the vegetation in Zone 1 is not compromised. Zone 2 shall begin at the outer edge of Zone 1 and extend landward 20 feet as measured

horizontally on a line perpendicular to the surface water. The combined width of Zones 1 and 2 shall be 50 feet on all sides of the surface water.

(9) STORMWATER RUNOFF THROUGH THE RIPARIAN BUFFER. Stormwater runoff into the riparian buffer shall meet dispersed flow as defined in 15A NCAC 02H .1002 except as otherwise described in this Item. Drainage conveyances include drainage ditches, roadside ditches, and stormwater conveyances...

..._...

(11) TABLE OF USES. The following table sets out potential new uses within the riparian buffer, or outside the riparian buffer with hydrological impacts on the riparian buffer, and designates them as deemed allowable, allowable upon authorization, allowable with mitigation upon authorization, or prohibited:...

	Deemed Allowable	Allowable Upon Authorization	Allowable with Mitigation Upon Authorization	Prohibited
(c) Bridges: (i) Impact equal to or less than one-tenth of an acre of riparian buffer	X			
(ii) Impact greater than one-tenth of an acre of riparian buffer		X		
..._...				
(g) Fertilizer application: (i) One-time fertilizer application at agronomic rates in the riparian buffer to establish replanted vegetation. No runoff from this one-time application in the riparian buffer is allowed in the surface water	X			
(ii) Ongoing fertilizer application				X
(h) Forest harvesting - see Rule .0612 of this Subchapter				
(i) Grading only in Zone 2 provided that the health of existing vegetation in Zone 1 is not compromised, Item (9) of this Rule is complied with, and disturbed areas are stabilized and revegetated	X			
..._...				
(y) Road, driveway or railroad - perpendicular crossings of streams and other surface waters subject to this Rule (i) Impact equal to or less than one-tenth of an acre of riparian buffer	X			
(ii) Impact greater than one-tenth of an acre but equal to or less than one-third of an acre of riparian buffer		X		
(iii) Impact greater than one-third of an acre of riparian buffer			X	
(iv) Driveway crossings in a residential subdivision that cumulatively impact equal to or less than one-third of an acre of riparian buffer		X		
(v) Driveway crossings in a residential subdivision that cumulatively impact greater than one-third of an acre of riparian buffer			X	
(vi) Farm roads and forest roads that are exempt from permitting from the U.S. Army Corps of Engineers per Section 404(f) of the Federal Clean Water Act	X			
..._...				

	Deemed Allowable	Allowable Upon Authorization	Allowable with Mitigation Upon Authorization	Prohibited
(ee) Temporary roads, provided that the disturbed area is restored to pre-construction topographic and hydrologic conditions and replanted with comparable vegetation within two months of when construction is complete. Tree planting may occur during the dormant season. At the end of five years, any restored wooded riparian buffer shall comply with the restoration criteria in Rule .0295(i) of this Subchapter:				
(i) Less than or equal to 2,500 square feet of riparian buffer disturbance	X			
(ii) Greater than 2,500 square feet of riparian buffer disturbance		X		
(iii) Associated with culvert installation or bridge construction or replacement		X		
..._...				
(rr) Vegetation management:				
(i) Emergency fire control measures provided that topography is restored	X			
(ii) Periodic mowing and harvesting of plant products only in Zone 2	X			
(iii) Placement of mulch ring around restoration plantings for a period of five years from the date of planting	X			
(iv) Planting non-invasive vegetation to enhance the riparian buffer	X			
(v) Pruning forest vegetation provided that the health and function of the forest vegetation is not compromised	X			
(vi) Removal of individual trees, branches or limbs which are in danger of causing damage to dwellings, existing utility lines, other structures or human life, or are imminently endangering stability of the streambank provided that the stumps are left or ground in place without causing additional land disturbance	X			
(vii) Removal of individual trees that are dead, diseased or damaged	X			
(viii) Removal of poison ivy, oak or sumac. Removal can include application of pesticides within the riparian buffer if the pesticides are certified by EPA for use in or near aquatic sites and are applied in accordance with the manufacturer's instructions. If removal is significant, then the riparian buffer shall be replanted with non-invasive species	X			

	Deemed Allowable	Allowable Upon Authorization	Allowable with Mitigation Upon Authorization	Prohibited
(ix) Removal of understory nuisance vegetation as defined in: Smith, Cherri L. 2008. Invasive Plants of North Carolina. NCDOT-Raleigh, NC. Removal can include application of pesticides within the riparian buffer is the pesticides are certified by EPA for use in or near aquatic sites and are applied in accordance with the manufacturer's instructions. If removal is significant then the riparian buffer shall be replanted with non-invasive species	X			
(x) Removal of woody vegetation in Zone 1 provided that Item (9) of this Rule is complied with			X	

BUFFER RULE, TAR-PAMLICO: Table of Uses & Other Provisions

[Below are excerpts from the Tar-Pamlico River Basin buffer rule that may apply to forestry. To see the full rule, click on the embedded link in the rule's title.]

15A NCAC 02B .0734 TAR-PAMLICO RIVER BASIN: NUTRIENT SENSITIVE WATERS MANAGEMENT STRATEGY: PROTECTION AND MAINTENANCE OF EXISTING RIPARIAN BUFFERS

The following is the management strategy for maintaining and protecting existing riparian buffers in the Tar-Pamlico River Basin.

(1) PURPOSE. The purpose of this Rule shall be to maintain and protect existing riparian buffers in the Tar-Pamlico River Basin to maintain their nutrient removal functions. Terms used in this Rule shall be as defined in Rule .0610 of this Subchapter.

(2) APPLICABILITY. This Rule applies to all landowners and other persons including local governments, state and federal entities conducting activities within the riparian buffers as described in Item (3) of this Rule in the Tar-Pamlico River Basin, excluding Ocracoke Island.

(3) BUFFERS PROTECTED. The following minimum criteria shall be used for identifying regulated riparian buffers:

(a) A surface water shall be subject to this Rule if the feature is approximately shown on any of the following references:

(i) The most recent version of the published manuscript of the soil survey map that shows stream layers prepared by the Natural Resources Conservation Service of the U.S. Department of Agriculture;

(ii) The United States Geologic Survey's (USGS) National Map, available online at: https://www.usgs.gov/core-science-systems/national-geospatial-program/national-map; or

(iii) Other maps approved by the Environmental Management Commission as more accurate than those identified in Sub-Item (3)(a)(i) and (3)(a)(ii) of this Rule. Other maps shall use a hydrography dataset developed using hydrography specifications and standard metadata approved by the Geographic Information Coordinating Council (GICC) and maintained on a GICC list of the best available hydrography. Edits, deletions and additions to the hydrography dataset shall follow GICC approved standards and specifications, per stewardship governance. Other maps shall have their hydrography dataset and procedures for edits, deletions and additions reviewed and approved by the GICC. Other maps shall be submitted to the Division for review and recommendation to the Environmental Management Commission. Prior to recommendation to the Environmental Management Commission, the Division shall issue a 30-calendar day public notice through the Division's Mailing List in accordance with 15A NCAC 02H .0503. Division staff shall present recommendations including comments received during the public notice period to the Environmental Management Commission

for a final decision. Maps approved under this Sub-Item shall not apply to projects that are existing and ongoing within the meaning of this Rule as set out in Item (6) of this Rule;

(b) This Rule shall apply to activities conducted within 50-foot wide riparian buffers directly adjacent to surface waters in the Tar-Pamlico River Basin (intermittent streams, perennial streams, lakes, ponds, reservoirs and estuaries), excluding wetlands;

(c) Wetlands adjacent to surface waters or within 50 feet of surface waters shall be considered as part of the riparian buffer but are regulated pursuant to 15A NCAC 02H .0506;

(d) Stormwater runoff from activities conducted outside the riparian buffer shall comply with Item (9) of this Rule;

(e) Riparian buffers protected by this Rule shall be measured pursuant to Item (8) of this Rule;

(f) A riparian buffer may be exempt from this Rule as described in Items (5), (6) and (7) of this Rule; and

(g) No new clearing, grading or development shall take place nor shall any new building permits be issued in violation of this Rule.

(4) ON-SITE DETERMINATION. When a landowner or other affected party believes that the maps listed in Sub-Item (3)(a) of this Rule have inaccurately depicted surface waters or the specific origination point of a stream, or the specific origination point of a stream is in question or unclear, he or she shall request the Authority to make an on-site determination. On-site determinations shall be made by Authority staff that are certified pursuant to G.S. 143-214.25A. Registered Foresters under Chapter 89B of the General Statutes who are employees of the North Carolina Forest Service of the Department of Agriculture and Consumer Services can make on-site determinations for forest harvesting operations and practices. On-site determinations shall expire five years from the date of the determination. Any disputes over on-site determinations shall be referred to the Director in writing within 60 calendar days of written notification from the Authority. The Director's determination is subject to review as provided in G.S. 150B.

(5) EXEMPTION BASED ON ON-SITE DETERMINATION. Surface waters that appear on the maps listed in Sub-Item (3)(a) of this Rule shall not be subject to this Rule if an on-site determination shows that they fall into one of the following categories:

(a) Ditches and manmade conveyances other than modified natural streams unless constructed for navigation or boat access.

(b) Manmade ponds and lakes that are not fed by an intermittent or perennial stream nor have a direct discharge point to an intermittent or perennial stream.

(c) Ephemeral streams.

(d) The absence on the ground of a corresponding perennial waterbody, intermittent waterbody, lake, pond or estuary.

..._...

(7) EXEMPTION FOR PONDS CONSTRUCTED AND USED FOR AGRICULTURAL PURPOSES. This Rule shall not apply to a freshwater pond if all of the following conditions are met:

(a) The property on which the pond is located is used for agriculture as that term is defined in G.S. 106-581.1.

(b) Except for this Rule, the use of the property is in compliance with all other water quality and water quantity statutes and rules applicable to the property before January 1, 2000.

(c) The pond is not a component of an animal waste management system as defined in G.S. 143-215.10B(3).

(8) ZONES OF THE RIPARIAN BUFFER. The protected riparian buffer shall have two zones as follows:

(a) Zone 1 shall consist of a vegetated area that is undisturbed except for uses provided for in Items (9) and (11) of this Rule. The location of Zone 1 shall be as follows:

(i) For intermittent and perennial streams, Zone 1 shall begin at the most landward limit of the top of bank or the rooted herbaceous vegetation and extend landward a distance of 30 feet on all sides of the stream measured horizontally on a line perpendicular to the stream (where an intermittent or perennial stream begins or ends, including when it goes underground, enters or exits a culvert, or enters or exits a wetland, the required distance shall be measured as a radius around the beginning or the end).

(ii) For ponds, lakes and reservoirs subject to this Rule, Zone 1 shall begin at the normal water level and extend landward a distance of 30 feet, measured horizontally on a line perpendicular to the surface water.

(iii) For surface waters within the 20 Coastal Counties (defined in Rule .0202 of this Subchapter) and within the jurisdiction of the Division of Coastal Management, Zone 1 shall begin at the most landward limit of the normal high water level or the normal water level and extend landward a distance of 30 feet, measured horizontally on a line perpendicular to the surface water, whichever is more restrictive.

(b) Zone 2 shall consist of a stable, vegetated area that is undisturbed except for activities and uses provided for in Items (9) and (11) of this Rule. Grading and revegetating Zone 2 is allowed provided that the health of the vegetation in Zone 1 is not compromised. Zone 2 shall begin at the outer edge of Zone 1 and extend landward 20 feet as measured horizontally on a line perpendicular to the surface water. The combined width of Zones 1 and 2 shall be 50 feet on all sides of the surface water.

(9) STORMWATER RUNOFF THROUGH THE RIPARIAN BUFFER. Stormwater runoff into the riparian buffer shall meet dispersed flow as defined in 15A NCAC 02H .1002 except as otherwise described in this Item. Drainage conveyances include drainage ditches, roadside ditches, and stormwater conveyances....

..._...

(11) TABLE OF USES: The following table sets out potential new uses within the riparian buffer, or outside the riparian buffer with hydrological impacts on the riparian buffer, and designates them as deemed allowable, allowable upon authorization, or allowable with mitigation upon authorization:

	Deemed Allowable	Allowable Upon Authorization	Allowable with Mitigation Upon Authorization	Prohibited
(c) Bridges:				
(i) Impact equal to or less than one-tenth of an acre of riparian buffer	X			
(ii) Impact greater than one-tenth of an acre of riparian buffer		X		
(d) Dam maintenance activities:				
(i) Dam maintenance activities that do not cause additional riparian buffer disturbance beyond the footprint	X			
(ii) Dam maintenance activities that do cause additional riparian buffer disturbance beyond the footprint of the existing dam		X		
(g) Fertilizer application:				
(i) One-time fertilizer application at agronomic rates in the riparian buffer to establish replanted vegetation. No runoff from this one-time application in the riparian buffer is allowed in the surface water	X			
(ii) Ongoing fertilizer application				X
(h) Forest harvesting - see Rule .0612 of this Subchapter				
(i) Grading only in Zone 2 provided that the health of existing vegetation in Zone 1 is not compromised, Item (9) of this Rule is complied with, and disturbed areas are stabilized and revegetated	X			
..._...				
(y) Road, driveway or railroads - perpendicular crossings of streams and other surface waters subject to this Rule:				
(i) Impact equal to or less than one-tenth of an acre of riparian buffer	X			
(ii) Impact greater than one-tenth of an acre but equal to or less than one-third of an acre of riparian buffer		X		
(iii) Impact greater than one-third of an acre of riparian buffer			X	
(iv) Driveway crossings in a residential subdivision that cumulatively impact equal to or less than one-third of an acre of riparian buffer		X		

	Deemed Allowable	Allowable Upon Authorization	Allowable with Mitigation Upon Authorization	Prohibited
(v) Driveway crossings in a residential subdivision that cumulatively impact greater than one-third of an acre of riparian buffer			X	
(vi) Farm roads and forest roads that are exempt from permitting from the U.S. Army Corps of Engineers per Section 404(f) of the Federal Clean Water Act	X			
(ee) Temporary roads, provided that the disturbed area is restored to pre-construction topographic and hydrologic conditions and replanted with comparable vegetation within two months of when construction is complete. Tree planting may occur during the dormant season. At the end of five years, any restored wooded riparian buffer shall comply with the restoration criteria in Rule .0295(i) of this Subchapter:				
(i) Less than or equal to 2,500 square feet of riparian buffer disturbance	X			
(ii) Greater than 2,500 square feet of riparian buffer disturbance		X		
(iii) Associated with culvert installation or bridge construction or replacement		X		
(rr) Vegetation management:				
(i) Emergency fire control measures provided that topography is restored	X			
(ii) Periodic mowing and harvesting of plant products only in Zone 2	X			
(iii) Placement of mulch ring around restoration plantings for a period of five years from the date of planting	X			
(iv) Planting non-invasive vegetation to enhance the riparian buffer	X			
(v) Pruning forest vegetation provided that the health and function of the forest vegetation is not compromised	X			
(vi) Removal of individual trees, branches or limbs, which are in danger of causing damage to dwellings, existing utility lines, other structures or human life, or are imminently endangering stability of the streambank provided that the stumps are left or ground in place without causing additional land disturbance	X			
(vii) Removal of individual trees that are dead, diseased or damaged	X			
(viii) Removal or poison ivy, oak or sumac Removal can include application of pesticides within the riparian buffer if the pesticides are certified by EPA for use in or near aquatic sites and are applied in accordance with the manufacturer's instructions. If removal is significant, then the riparian buffer shall be replanted with non-invasive species	X			

	Deemed Allowable	Allowable Upon Authorization	Allowable with Mitigation Upon Authorization	Prohibited
(ix) Removal of understory nuisance vegetation as defined in: Smith, Cherri L. 2008. Invasive Plants of North Carolina. NCDOT-Raleigh, NC. Removal can include application of pesticides within the riparian buffer is the pesticides are certified by EPA for use in or near aquatic sites and are applied in accordance with the manufacturer's instructions. If removal is significant then the riparian buffer shall be replanted with non-invasive species	X			
(x) Removal of woody vegetation in Zone 1 provided that Item (9) of this Rule is complied with.			X	

BUFFER RULE, GOOSE CREEK WATERSHED

[NOTE: These Riparian Buffer Rules apply in parts of Mecklenburg and Union counties of North Carolina.]
[Below are excerpts that may apply to forestry. To see the full rule, click on the embedded link in the rule's title.]

15A NCAC 02B .0605 SITE SPECIFIC WATER QUALITY MANAGEMENT PLAN FOR THE GOOSE CREEK WATERSHED: RIPARIAN BUFFER WIDTHS

"In the Goose Creek watershed, riparian buffers are required within 200 feet of waterbodies within the 100-Year Floodplain and within 100 feet of waterbodies that are not within the 100-Year Floodplain. The 100-Year Floodplain is the one percent Annual Chance Floodplain as delineated by the North Carolina Floodplain Mapping Program in the Department of Public Safety.
The riparian buffer shall consist of a vegetated area that is undisturbed except for uses provided in Rule .0607 of this Section."

15A NCAC 02B .0607 SITE SPECIFIC WATER QUALITY MANAGEMENT PLAN FOR THE GOOSE CREEK WATERSHED: BUFFER TYPES AND MANAGING ACTIVITIES WITHIN RIPARIAN BUFFERS

"(a) DEFINITIONS. The terms used in this Rule and Rules .0605, .0606 and .0608 of this Section, shall be as defined in Rule .0610 of this Section and as follows:

(1) "Authority" means either the Division or a local government that has been delegated pursuant this Rule to implement the riparian buffer program.
(2) "Riparian buffer" means the area as defined in Paragraph (c) of this Rule.

(b) APPLICABILITY. This Rule applies to all landowners and other persons including local governments, state and federal entities conducting activities within the riparian buffers as described in Paragraph (c) of this Rule in the Goose Creek Watershed.
(c) BUFFERS PROTECTED. The following minimum criteria shall be used for identifying regulated riparian buffers:

(1) A surface water shall be subject if the feature is approximately shown on any of the following references:
(A) The most recent version of the published manuscript of the soil survey map that shows stream layers prepared by the Natural Resources Conservation Service of the U.S. Department of Agriculture;
(B) The United States Geologic Survey's (USGS) National Map, available online at: https://www.usgs.gov/core-science-systems/national-geospatial-program/national-map; or
(C) Other maps approved by the Environmental Management Commission as more accurate than those identified in Part (c)(1)(A) and (c)(1)(B) of this Rule. Other maps shall use a hydrography dataset developed using hydrography specifications and standard metadata approved by the Geographic Information Coordinating Council (GICC) and maintained on a GICC list of the best available hydrography. Edits, deletions and additions to the hydrography dataset shall follow GICC approved standards and specifications, per stewardship governance. Other maps shall have their hydrography dataset and procedures for edits, deletions and additions reviewed and approved by the GICC. Other maps shall be submitted to the Division for review and recommendation to the Environmental

Management Commission. Prior to recommendation to the Environmental Management Commission, the Division shall issue a 30-calendar day public notice through the Division's Mailing List in accordance with 15A NCAC 02H .0503. Division staff shall present recommendations including comments received during the public notice period to the Environmental Management Commission for a final decision. Maps approved under this Subparagraph shall not apply to projects that are existing and ongoing within the meaning of this Rule as set out in Paragraph (f) of this Rule.

(2) This Rule shall apply to activities conducted within riparian buffers as set forth in Rule .0605 of this Section.

(3) Wetlands adjacent to surface waters or within the riparian buffer width as set forth in Rule .0605 of this Section shall be considered as part of the riparian buffer but are regulated pursuant to 15A NCAC 02H .0506.

(4) Stormwater runoff from activities conducted outside the riparian buffer shall comply with Paragraph (h) of this Rule.

(5) For streams, the riparian buffer shall begin at the most landward limit of the top of bank or the rooted herbaceous vegetation and extend landward on all sides of the stream, measured horizontally on a line perpendicular to the stream (where a stream begins or ends, including when it goes underground, enters or exits a culvert, or enters or exits a wetland, the required distance shall be measured as a radius around the beginning or the end).

(6) For ponds, lakes and reservoirs located within a natural drainage way, the riparian buffer shall begin at the normal water level and extend landward, measured horizontally on a line perpendicular to the surface water.

(7) A riparian buffer may be exempt from this Rule as described in Paragraphs (e), (f) and (g) of this Rule.

(8) No new clearing, grading or development shall take place nor shall any new building permits be issued in violation of this Rule.

(d) ON-SITE DETERMINATION. When a landowner or other affected party believes that the maps listed in Subparagraph (c)(1) of this Rule have inaccurately depicted surface waters or the specific origination point of a stream, or the specific origination point of a stream is in question or unclear, he or she shall request the Authority to make an on-site determination. On-site determinations shall be made by Authority staff that are certified pursuant to G.S. 143-214.25A. Registered Foresters under Chapter 89B of the General Statutes who are employees of the North Carolina Forest Service of the Department of Agriculture and Consumer Services can make on-site determinations for forest harvesting operations and practices. On-site determinations shall expire five years from the date of the determination. Any disputes over on-site determinations shall be referred to the Director in writing within 60 calendar days of written notification from the Authority. The Director's determination is subject to review as provided in Articles 3 and 4 of G.S. 150B.

(e) EXEMPTION BASED ON ON-SITE DETERMINATION. Surface waters that appear on the maps listed in Subparagraph (c)(1) of this Rule shall not be subject to this Rule if an on-site determination shows that they fall into one of the following categories:

(1) Ditches and manmade conveyances other than modified natural streams unless constructed for navigation or boat access.

(2) Manmade ponds and lakes that are not fed by an intermittent or perennial stream nor have a direct discharge point to an intermittent or perennial stream.

(3) Ephemeral streams.

(4) The absence on the ground of a corresponding perennial waterbody, intermittent waterbody, lake, or pond.

..._...

(g) EXEMPTION FOR PONDS CONSTRUCTED AND USED FOR AGRICULTURAL PURPOSES. This Rule shall not apply to a freshwater pond if all of the following conditions are met:

(1) The property on which the pond is located is used for agriculture as that term is defined in G.S. 106-581.1.

(2) Except for this Rule, the use of the property is in compliance with all other water quality and water quantity statutes and rules applicable to the property before January 1, 2009.

(3) The pond is not a component of an animal waste management system as defined in G.S. 143-215.10B (3).

(h) STORMWATER RUNOFF THROUGH THE RIPARIAN BUFFER. Stormwater runoff into the riparian buffer shall meet dispersed flow as defined in 15A NCAC 02H .1002 except as otherwise described in this Paragraph. Drainage conveyances include drainage ditches, roadside ditches, and stormwater conveyances...

..._...

(i) USES. Uses within the riparian buffer, or outside the riparian buffer with hydrological impacts on the riparian buffer, shall be designated as deemed allowable, allowable upon authorization, allowable with mitigation upon authorization, allowable with exception or prohibited...

(3) The following table sets out potential new uses within the riparian buffer, or outside the riparian buffer with hydrological impacts on the riparian buffer, and designates them as deemed allowable, allowable upon authorization, allowable with mitigation upon authorization or prohibited:

	Deemed Allowable	Allowable Upon Authorization	Allowable with Mitigation Upon Authorization	Prohibited
(C) Bridges: (i) Impact equal to or less than one-tenth of an acre of riparian buffer (ii) Impact greater than one-tenth of an acre of riparian buffer	X	X		
(D) Dam maintenance activities:				
(i) Dam maintenance activities that do not cause additional riparian buffer disturbance beyond the footprint of the existing dam	X			
(ii) Dam maintenance activities that do cause additional riparian buffer disturbance beyond the footprint of the existing dam		X		
(E) Drainage of a pond subject to Paragraph (c) of this Rule provided that a new riparian buffer is established by natural regeneration or planting, within 50 feet of any stream which naturally forms or is constructed within the drained pond area. Drained ponds shall be allowed to naturalize for a minimum of six months from completion of the draining activity before a stream determination is conducted pursuant to Paragraph (d) of this Rule	X			
..._...				
(G) Fertilizer application:				
(i) One-time fertilizer application at agronomic rates in the riparian buffer to establish replanted vegetation. No runoff from this one-time application in the riparian buffer is allowed in the surface water	X			
(ii) Ongoing fertilizer application				X
(H) Forest harvesting - see Rule .0608 of this Section				
..._...				
(L) Maintenance access on modified natural streams or canals: a grassed travelway on one side of the waterbody when less impacting alternatives are not practical. The width and specifications of the travel way shall be only that needed for equipment access and operation. The travelway shall be located to maximize stream shading		X		
..._...				
(W) Road, driveway or railroad - perpendicular crossings of streams and other surface waters subject to this Rule:				
(i) Impact equal to or less than one-tenth of an acre of riparian buffer	X			
(ii) Impact greater than one-tenth of an acre but equal to or less than one-third of an acre of riparian buffer		X		
(iii) Impact greater than one-third of an acre of riparian buffer			X	
(iv) Driveway crossings in a residential subdivision that cumulatively impact equal to or less than one-third of an acre of riparian buffer		X		

	Deemed Allowable	Allowable Upon Authorization	Allowable with Mitigation Upon Authorization	Prohibited
(v) Driveway crossings in a residential subdivision that cumulatively impact greater than one-third of an acre of riparian buffer			X	
(vi) Farm roads and forest roads that are exempt from permitting from the U.S. Army Corps of Engineers per Section 404(f) of the Federal Clean Water Act	X			
..._...				
(CC) Temporary roads, provided that the disturbed area is restored to pre-construction topographic and hydrologic conditions and replanted with comparable vegetation within two months of when construction is complete. Tree planting may occur during the dormant season. At the end of five years, any restored wooded riparian buffer shall comply with the restoration criteria in Rule .0295(i) of this Subchapter:				
(i) Less than or equal to 2,500 square feet of riparian buffer disturbance	X			
(ii) Greater than 2,500 square feet of riparian buffer disturbance		X		
(iii) Associated with culvert installation or bridge construction or replacement		X		
(DD) Temporary sediment and erosion control devices provided that the disturbed area is restored to preconstruction topographic and hydrologic conditions and replanted with comparable vegetation within two months of when construction is complete. Tree planting may occur during the dormant season. At the end of five years, any restored wooded riparian buffer shall comply with the restoration criteria in Rule .0295(i) of this Subchapter:				
(i) In the outer riparian buffer (landward of 50 feet) provided that ground cover is established within the timeframes required by the Sedimentation and Erosion Control Act, vegetation in the inner riparian buffer is not compromised, and that discharge is released in accordance with Paragraph (h) of this Rule	X			
(ii) In the inner and outer riparian buffer to control impacts associated with uses identified in this Table or uses that have received an Authorization Certificate with Exception provided that sediment and erosion control for upland areas is addressed outside the riparian buffer		X		
(iii) In-stream temporary erosion and sediment control measures for work within a stream channel that is authorized under Sections 401 and 404 of the Federal Clean Water Act	X			
..._...				
(PP) Vegetation management:				
(i) Emergency fire control measures provided that topography is restored	X			

		Deemed Allowable	Allowable Upon Authorization	Allowable with Mitigation Upon Authorization	Prohibited
(ii)	Placement of mulch ring around restoration plantings for a period of five years from the date of planting	X			
(iii)	Planting non-invasive vegetation to enhance the riparian buffer	X			
(iv)	Pruning forest vegetation provided that the health and function of the forest vegetation is not compromised	X			
(v)	Removal of individual trees, branches or limbs which are in danger of causing damage to dwellings, existing utility lines, other structures or human life, or are imminently endangering stability of the streambank provided that the stumps are left or ground in place without causing additional land disturbance	X			
(vi)	Removal of individual trees that are dead, diseased or damaged	X			
(vii)	Removal of poison ivy, oak or sumac. If removal is significant, then the riparian buffer shall be replanted with non-invasive species	X			
(viii)	Removal of understory nuisance vegetation as defined in: Smith, Cherri L. 2008. Invasive Plants of North Carolina. NC-DOT, Raleigh, NC. If removal is significant then the riparian buffer shall be replanted with non-invasive species	X			
(ix)	Removal of woody vegetation in the riparian buffer provided that Paragraph (h) of this Rule is complied with.			X	

(k) DELEGATION OF AUTHORITY FOR THE PROTECTION AND MAINTENANCE OF EXISTING RIPARIAN BUFFERS. The following set out the requirements for delegation of the responsibility for implementing and enforcing the Goose Creek Watershed riparian buffer protection program, as described in Rules .0605 through .0608 of this Section, to local governments.

..._...

(4) LIMITS OF DELEGATED LOCAL AUTHORITY. The Division shall have jurisdiction to the exclusion of local governments to administer the requirements of this Rule for the following types of activities:

(A) Activities undertaken by the State;
(B) Activities undertaken by the United States;
(C) Activities undertaken by multiple jurisdictions;
(D) Activities undertaken by local units of government;
(E) Forest harvest activities described in Rule .0608 of this Section; and
(F) Agricultural activities."

15A NCAC 02B .0608 SITE SPECIFIC WATER QUALITY MANAGEMENT PLAN FOR THE GOOSE CREEK WATERSHED (YADKIN PEE-DEE RIVER BASIN): MANAGE ACTIVITIES WITHIN RIPARIAN BUFFERS: FOREST HARVESTING REQUIREMENTS

"(a) PURPOSE. The following requirements shall apply to all forest harvesting operations and forestry-related land-disturbing activities subject to riparian buffer requirements under Rules .0601 through .0608 of this Section.

(b) REQUIREMENTS THROUGHOUT THE BUFFER. The following requirements shall apply:

(1) All forest harvest activities within the buffer shall comply with Forest Practices Guidelines Related to Water Quality as defined in 02 NCAC 60C;

(2) Logging decks and sawmill sites shall not be placed in the riparian buffer;

(3) Timber felling shall be directed away from the stream or water body;

(4) Skidding shall be directed away from the stream or water body and shall be done in a manner that minimizes soil disturbance and prevents the creation of channels or ruts;

(5) Individual trees may be treated to maintain or improve their health, form, or vigor;

(6) Harvesting of dead or infected trees or application of pesticides necessary to prevent or control extensive tree pest and disease infestation is allowed, when approved by the North Carolina Forest Service for a specific site in accordance with G.S. 106-920 through G.S. 106-926. The North Carolina Forest Service must notify the Division of all approvals within 60 calendar days;

(7) Removal of individual trees that are in danger of causing damage to structures or human life is allowed;

(8) Natural regeneration of forest vegetation and planting of trees, shrubs, or ground cover plants to enhance the riparian buffer is allowed provided that the soil disturbance is minimized;

(9) Prescribed burns shall be allowed when conducted for forest management purposes; and

(10) A one-time fertilizer application at agronomic rates in the riparian buffer is allowed to establish replanted vegetation. No runoff from this one-time application in the riparian buffer is allowed in the surface water.

(c) SELECTIVE HARVEST. Selective forest harvesting is allowed provided that:

(1) The forest lands have a deferment for use value under forestry in accordance with G.S. 105-277.2 through 277.6 or the forest lands have a forest management plan prepared or approved by a registered professional forester. Copies of either the approval of the deferment for use value under forestry or the forest management plan shall be produced upon request by the North Carolina Forest Service or the Division;

(2) Tracked or wheeled vehicles are only used for the purpose of selective timber harvesting where there is no other practical alternative for removal of individual trees;

(3) No tracked or wheeled vehicles shall be used to conduct site preparation activities;

(4) Trees are removed in a manner that minimizes disturbance to the soil and remaining vegetation;

(5) The first 10 feet of the riparian buffer directly adjacent to the stream or waterbody shall be undisturbed, except for the removal of individual high value trees. The removal of individual high value trees shall only be allowed provided that no trees with exposed roots visible in the streambank are cut, unless they meet Subparagraphs (b)(6) or (b)(7) of this Rule;

(6) In the area from 10 feet to 50 feet of the riparian buffer, a maximum of 50 percent of the trees greater than five inches diameter breast height (DBH) may be cut and removed. The reentry time for harvest shall be no more frequent than every 15 years, except on forest plantations as defined in 15A NCAC 02B .0610, where the reentry time shall be no more frequent than every five years. In either case, the trees remaining after harvest shall be as evenly spaced as possible; and

(7) In the outer riparian buffer (landward of 50 feet), harvesting and regeneration of the forest stand shall be allowed, provided that ground cover is established and maintained to provide for diffusion and infiltration of surface runoff.

(d) EXCEPTIONS. Persons who wish to undertake forest harvesting operations or practices different from the requirements set forth in this Rule may request an Authorization Certificate with Exception pursuant to Rule .0606 of this Section."

BUFFER RULE, JORDAN LAKE WATERSHED

15A NCAC 02B .0267 JORDAN WATER SUPPLY NUTRIENT STRATEGY: PROTECTION OF EXISTING RIPARIAN BUFFERS

Protection of the nutrient removal and other water quality benefits provided by riparian buffers throughout the watershed is an important element of the overall Jordan water supply nutrient strategy. The following is the strategy for riparian buffer protection and maintenance in the Jordan watershed, as prefaced in 15A NCAC 02B .0262:

(1) PURPOSE. The purposes of this Rule shall be to protect and preserve existing riparian buffers throughout the Jordan watershed as generally described in 15A NCAC 02B .0262, in order to maintain their nutrient removal and stream protection functions. Additionally this Rule will help protect the water supply uses of Jordan Reservoir and of designated water supplies throughout the Jordan watershed. Local governments shall establish programs to meet or exceed the minimum requirements of this Rule. The requirements of this Rule shall supersede all locally implemented buffer requirements stated in 15A NCAC 02B .0214 through .0216 as applied to WS-II, WS-III, and WS-IV waters in the Jordan watershed. Local governments subject to this Rule may choose to implement more stringent requirements, including requiring additional buffer width.

(2) DEFINITIONS. For the purpose of this Rule, these terms shall be defined as follows:

(a) 'Access Trails' means pedestrian trails constructed of pervious or impervious surfaces and related structures to access a surface water, including boardwalks, steps, rails, and signage.

(b) 'Airport Facilities' means all properties, facilities, buildings, structures, and activities that satisfy or otherwise fall within the scope of one or more of the definitions or uses of the words or phrases 'air navigation facility', 'airport', or 'airport protection privileges' under G.S. 63-1; the definition of 'aeronautical facilities' in G.S. 63-79(1); the phrase 'airport facilities' as used in G.S. 159-48(b)(1); the phrase 'aeronautical facilities' as defined in G.S. 159-81 and G.S. 159-97; and the phrase 'airport facilities and improvements' as used in Article V, Section 13, of the North Carolina Constitution, which shall include, without limitation, any and all of the following: airports, airport maintenance facilities, clear zones, drainage ditches, fields, hangars, landing lighting, airport and airport-related offices, parking facilities, related navigational and signal systems, runways, stormwater outfalls, terminals, terminal shops, and all appurtenant areas used or suitable for airport buildings or other airport facilities, and all appurtenant rights-of-way; restricted landing areas; any structures, mechanisms, lights, beacons, marks, communicating systems, or other instrumentalities or devices used or useful as an aid, or constituting an advantage or convenience to the safe taking off, navigation, and landing of aircraft, or the safe and efficient operation or maintenance of an airport or restricted landing area; easements through, or interests in, air space over land or water, interests in airport hazards outside the boundaries of airports or restricted landing areas, and other protection privileges, the acquisition or control of which is necessary to ensure safe approaches to the landing areas of airports and restricted landing areas, and the safe and efficient operation thereof and any combination of any or all of such facilities. Notwithstanding the foregoing, the following shall not be included in the definition of 'airport facilities':

(i) Satellite parking facilities;

(ii) Retail and commercial development outside of the terminal area, such as rental car facilities; and

(iii) Other secondary development, such as hotels, industrial facilities, free-standing offices and other similar buildings, so long as these facilities are not directly associated with the operation of the airport, and are not operated by a unit of government or special governmental entity such as an airport authority, in which case they are included in the definition of 'airport facilities'.

(c) 'Forest management plan' means as defined in Chapter 160A-458.5(4).

(d) 'Forest plantation' means an area of planted trees that may be conifers (pines) or hardwoods. On a plantation, the intended crop trees are planted rather than naturally regenerated from seed on the site, coppice (sprouting), or seed that is blown or carried into the site.

(e) 'Greenway / Hiking Trails' means pedestrian trails constructed of pervious or impervious surfaces and related structures including but not limited to boardwalks, steps, rails, and signage, and that generally run parallel to the shoreline.

(f) 'High Value Tree' means a tree that meets or exceeds the following standards: for pine species, 14-inch DBH or greater or 18-inch or greater stump diameter; or for hardwoods and wetland species, 16-inch DBH or greater or 24-inch or greater stump diameter.

(g) 'Shoreline stabilization' is the in-place stabilization of an eroding shoreline. Stabilization techniques which include "soft" methods or natural materials (such as root wads, or rock vanes) may be considered as part of a restoration design. However, stabilization techniques that consist primarily of "hard" engineering, such as concrete lined channels, riprap, or gabions, while providing bank stabilization, shall not be considered stream restoration.

(h) 'Stream restoration' is defined as the process of converting an unstable, altered or degraded stream corridor, including adjacent riparian zone and flood-prone areas to its natural or referenced, stable conditions considering recent and future watershed conditions. This process also includes restoring the geomorphic dimension, pattern, and profile as well as biological and chemical integrity, including transport of water and sediment produced by the stream's watershed in order to achieve dynamic equilibrium. 'Referenced' or 'referenced reach' means a stable stream that is in dynamic equilibrium with its valley and contributing watershed. A reference reach can be used to develop natural channel design criteria for stream restoration projects.

(i) 'Stump diameter' means the diameter of a tree measured at six inches above the ground surface level.

(j) 'Temporary road' means a road constructed temporarily for equipment access to build or replace hydraulic conveyance structures such as bridges, culverts, pipes or water dependent structures, or to maintain public traffic during construction.

(3) APPLICABILITY. This Rule applies to all landowners and other persons conducting activities in the Jordan watershed, including state and federal entities, and to all local governments in the Jordan watershed, as described in 15A NCAC 02B .0262. Local governments shall develop riparian buffer protection programs for approval by the Commission, incorporating the minimum standards set out throughout this Rule and shall apply the requirements of this Rule throughout their jurisdictions within the Jordan watershed except where The Division shall exercise jurisdiction. For the following types of buffer activities in the Jordan watershed, wherever local governments are referenced in this Rule, the Division shall implement applicable requirements to the exclusion of local governments:

(a) Activities conducted under the authority of the State.

(b) Activities conducted under the authority of the United States.

(c) Activities conducted under the authority of multiple jurisdictions.

(d) Activities conducted under the authority of local units of government.

(e) Forest harvesting activities described in Item (14) of this Rule.

(f) Agricultural activities.

(g) Activities conducted in a location where there is no local government program implementing NPDES stormwater requirements, Water Supply Watershed requirements, or a voluntary local stormwater or buffer initiative at the time of the activity.

(4) BUFFERS PROTECTED. The following minimum criteria shall be used for identifying regulated buffers:

(a) This Rule shall apply to activities conducted within, or outside of with impacts upon, 50-foot wide riparian buffers directly adjacent to surface waters in the Jordan watershed (intermittent streams, perennial streams, lakes, reservoirs and ponds), excluding wetlands.

(b) Wetlands adjacent to surface waters or within 50 feet of surface waters shall be considered as part of the riparian buffer but are regulated pursuant to 15A NCAC 02H .0506.

(c) A surface water shall be subject to this Rule if the feature is approximately shown on any of the following references, and shall not be subject if it does not appear on any of these references:

(i) The most recent version of the soil survey map prepared by the Natural Resources Conservation Service of the United States Department of Agriculture.

(ii) The most recent version of the 1:24,000 scale (7.5 minute) quadrangle topographic maps prepared by the United States Geologic Survey (USGS).

(iii) Maps approved by the Geographic Information Coordinating Council and by the Commission. Prior to approving such maps, the Commission shall provide a 30-day public notice and opportunity for comment. Maps approved under this sub-item shall not apply to projects that are existing and ongoing within the meaning of this Rule as set out in Item (6).

(d) Where the specific origination point of a stream regulated under this Item is in question, upon request of the Division or another party, the local government shall make an on-site determination.

A local government representative who has successfully completed the Division's *Surface Water Identification Training Certification* course, its successor, or other equivalent training curriculum approved by the Division, shall establish that point using the latest version of the Division publication, *Identification Methods for the Origins of Intermittent and Perennial Streams,* available at http://portal.ncdenr.org/web/wq/swp/ws/401/waterresources/streamdeterminations or from the Division of Water Quality, 401/Wetlands Unit, 1650 Mail Service Center, Raleigh, NC, 27699-1650. A local government may accept the results of a site assessment made by another party who meets these criteria. Any disputes over on-site determinations made according to this Sub-Item shall be referred to the Director in writing. The Director's determination is subject to review as provided in Articles 3 and 4 of G.S. 150B.

(e) Riparian buffers protected by this Rule shall be measured pursuant to Item (7) of this Rule.

(f) Parties subject to this rule shall abide by all State rules and laws regarding waters of the state including but not limited to 15A NCAC 02H .0500, 15A NCAC 02H .1300, and Sections 401 and 404 of the Federal Water Pollution Control Act.

(g) A riparian buffer may be exempt from this Rule as described in Item (5) or (6) of this Rule.

(h) No new clearing, grading, or development shall take place nor shall any new building permits be issued in violation of this Rule.

(5) EXEMPTION BASED ON ON-SITE DETERMINATION. When a landowner or other affected party including the Division believes that the maps have inaccurately depicted surface waters, he or she shall consult the appropriate local government. Upon request, a local government representative who has successfully completed the Division's *Surface Water Identification Training Certification* course, its successor, or other equivalent training curriculum approved by the Division, shall make an on-site determination. Local governments may also accept the results of site assessments made by other parties who have successfully completed such training. Any disputes over on-site determinations shall be referred to the Director in writing. A determination of the Director as to the accuracy or application of the maps is subject to review as provided in Articles 3 and 4 of G.S. 150B. Surface waters that appear on the maps shall not be subject to this Rule if a site evaluation reveals any of the following cases:

(a) Man-made ponds and lakes that are not part of a natural drainage way that is classified in accordance with 15A NCAC 02B .0100, including ponds and lakes created for animal watering, irrigation, or other agricultural uses. A pond or lake is part of a natural drainage way when it is fed by an intermittent or perennial stream or when it has a direct discharge point to an intermittent or perennial stream.

(b) Ephemeral streams.

(c) The absence on the ground of a corresponding intermittent or perennial stream, lake, reservoir, or pond.

(d) Ditches or other man-made water conveyances, other than modified natural streams.

(6) EXEMPTION WHEN EXISTING USES ARE PRESENT AND ONGOING. This Rule shall not apply to uses that are existing and ongoing; however, this Rule shall apply at the time an existing, ongoing use is changed to another use. Change of use shall involve the initiation of any activity that does not meet either of the following criteria for existing, ongoing activity:

(a) It was present within the riparian buffer as of the effective date of a local program enforcing this Rule and has continued to exist since that time. For any Division-administered activities listed in Item (3) of this Rule, a use shall be considered existing and ongoing if it was present within the riparian buffer as of the Rule's effective date of August 11, 2009 and has continued to exist since that time. Existing uses shall include agriculture, buildings, industrial facilities, commercial areas, transportation facilities, maintained lawns, utility lines and on-site sanitary sewage systems, any of which involve either specific, periodic management of vegetation or displacement of vegetation by structures or regular activity. Only the portion of the riparian buffer occupied by the footprint of the existing use is exempt from this Rule. Change of ownership through purchase or inheritance is not a change of use. Activities necessary to maintain uses are allowed provided that the site remains similarly vegetated, no impervious surface is added within 50 feet of the surface water where it did not previously exist as of the effective date of a local program enforcing this Rule, or for Division-administered activities listed in Item (3) of this Rule as of the Rule's effective date of August 11, 2009, and existing diffuse flow is maintained. Grading and revegetating Zone Two is allowed provided that the health of the vegetation in Zone One is not compromised, the ground is stabilized and existing diffuse flow is maintained.

(b) Projects or proposed development that are determined by the local government to meet at least one of the following criteria:

(i) Project requires a 401 Certification/404 Permit and these were issued prior to the effective date of the local program enforcing this Rule, and prior to the August 11, 2009 effective date of this Rule for Division-administered activities listed in Item (3) of this Rule;

(ii) Projects that require a state permit, such as landfills, NPDES wastewater discharges, land application of residuals and road construction activities, have begun construction or are under contract to begin construction and had received all required state permits and certifications prior to the effective date of the local program implementing this Rule, and prior to the August 11, 2009 effective date of this Rule for Division-administered activities listed in Item (3) of this Rule;

(iii) Projects that are being reviewed through the Clean Water Act Section 404/National Environmental Policy Act Merger 01 Process (published by the US Army Corps of Engineers and Federal Highway Administration, 2003) or its immediate successor and that have reached agreement with DENR on avoidance and minimization by the effective date of the local program enforcing this Rule, and prior to the August 11, 2009 effective date of this Rule for state and federal entities; or

(iv) Projects that are not required to be reviewed by the Clean Water Act Section 404/National Environmental Policy Act Merger 01 Process (published by the US Army Corps of Engineers and Federal Highway Administration, 2003) or its immediate successor if a Finding of No Significant Impact has been issued for the project and the project has the written approval of the local government prior to the effective date of the local program enforcing this Rule, or the written approval of the Division prior to the August 11, 2009 effective date of this Rule for state and federal entities.

(7) ZONES OF THE RIPARIAN BUFFER. The protected riparian buffer shall have two zones as follows:

(a) Zone One shall consist of a vegetated area that is undisturbed except for uses provided for in Item (9) of this Rule. The location of Zone One shall be as follows:

(i) For intermittent and perennial streams, Zone One shall begin at the top of the bank and extend landward a distance of 30 feet on all sides of the surface water, measured horizontally on a line perpendicular to a vertical line marking the top of the bank.

(ii) For ponds, lakes and reservoirs located within a natural drainage way, Zone One shall begin at the normal water level and extend landward a distance of 30 feet, measured horizontally on a line perpendicular to a vertical line marking the normal water level.

(b) Zone Two shall consist of a stable, vegetated area that is undisturbed except for uses provided for in Item (9) of this Rule. Grading and revegetating in Zone Two is allowed provided that the health of the vegetation in Zone One is not compromised. Zone Two shall begin at the outer edge of Zone One and extend landward 20 feet as measured horizontally on a line perpendicular to the surface water. The combined width of Zones One and Two shall be 50 feet on all sides of the surface water.

(8) DIFFUSE FLOW REQUIREMENT. Diffuse flow of runoff shall be maintained in the riparian buffer by dispersing concentrated flow prior to its entry into the buffer and reestablishing vegetation as follows:

(a) Concentrated runoff from new ditches or manmade conveyances shall be converted to diffuse flow at non-erosive velocities before the runoff enters Zone Two of the riparian buffer;

(b) Periodic corrective action to restore diffuse flow shall be taken as necessary and shall be designed to impede the formation of erosion gullies;

(c) As set out in Items (7) and (9) of this Rule, no new stormwater conveyances are allowed through the buffers except for those specified in Item (9) of this Rule addressing stormwater management ponds, drainage ditches, roadside ditches, and stormwater conveyances; and

(d) Activities conducted outside of buffers identified in Item (4) that alter the hydrology in violation of the diffuse flow requirements set out in this Item shall be prohibited.

(9) TABLE OF USES. The following chart sets out potential new uses within the buffer, or outside the buffer with impacts on the buffer, and categorizes them as exempt, allowable, or allowable with mitigation. All uses not categorized as exempt, allowable, or allowable with mitigation are considered prohibited and may not proceed within the riparian buffer, or outside the buffer if the use would impact diffuse flow through the buffer, unless a variance is granted pursuant to Item (12) of this Rule. The requirements for each category are given in Item (10) of this Rule.

Use	Exempt*	Allowable*	Allowable with Mitigation*
Access trails: Pedestrian access trails leading to the surface water, docks, fishing piers, boat ramps and other water dependent activities: • Pedestrian access trails that are restricted to the minimum width practicable and do not exceed 4 feet in width of buffer disturbance, and provided that installation and use does not result in removal of trees as defined in this Rule and no impervious surface is added to the riparian buffer • Pedestrian access trails that exceed 4 feet in width of buffer disturbance, the installation or use results in removal of trees as defined in this Rule or impervious surface is added to the riparian buffer	X	X	
Airport facilities: • Airport facilities that impact equal to or less than 150 linear feet or one-third of an acre of riparian buffer • Airport facilities that impact greater than 150 linear feet or one-third of an acre of riparian buffer • Activities necessary to comply with FAA requirements (e.g. radar uses or landing strips)1		X X	X
Archaeological activities	X		
Bridges		X	
Canoe Access provided that installation and use does not result in removal of trees as defined in this Rule and no impervious surface is added to the buffer.	X		
Dam maintenance activities: • Dam maintenance activities that do not cause additional buffer disturbance beyond the footprint of the existing dam or those covered under the U.S. Army Corps of Engineers Nationwide Permit No. 3 • Dam maintenance activities that do cause additional buffer disturbance beyond the footprint of the existing dam or those not covered under the U.S. Army Corps of Engineers Nationwide Permit No.3	X	X	

Use	Exempt*	Allowable*	Allowable with Mitigation*
Drainage ditches, roadside ditches and stormwater conveyances through riparian buffers: • New stormwater flows to existing drainage ditches, roadside ditches, and stormwater conveyances provided flows do not alter or result in the need to alter the conveyance and are managed to minimize the sediment, nutrients and other pollution that convey to waterbodies. • Realignment of existing roadside drainage ditches retaining the design dimensions, provided that no additional travel lanes are added and the minimum required roadway typical section is used based on traffic and safety considerations. • New or altered drainage ditches, roadside ditches and stormwater outfalls provided that a stormwater management facility is installed to control nutrients and attenuate flow before the conveyance discharges through the riparian buffer • New drainage ditches, roadside ditches and stormwater conveyances applicable to linear projects that do not provide a stormwater management facility due to topography constraints provided that other practicable BMPs are employed.	X	X X	X
Drainage of a pond in a natural drainage way provided that a new riparian buffer that meets the requirements of Items (7) and (8) of this Rule is established adjacent to the new channel	X		
Driveway crossings of streams and other surface waters subject to this Rule: • Driveway crossings on single family residential lots that disturb equal to or less than 25 linear feet or 2,500 square feet of riparian buffer • Driveway crossings on single family residential lots that disturb greater than 25 linear feet or 2,500 square feet of riparian buffer • In a subdivision that cumulatively disturb equal to or less than 150 linear feet or one-third of an acre of riparian buffer • In a subdivision that cumulatively disturb greater than 150 linear feet or one-third of an acre of riparian buffer	X	X X	X
Driveway impacts other than crossing of a stream or other surface waters subject to this Rule			X
Fences: • Fences provided that disturbance is minimized and installation does not result in removal of trees as defined in this Rule • Fences provided that disturbance is minimized and installation results in removal of trees as defined in this Rule	X	X	
Forest harvesting - see Item (14) of this Rule			
Fertilizer application: one-time application to establish vegetation	X		

Use	Exempt*	Allowable*	Allowable with Mitigation*
Grading and revegetation in Zone Two provided that diffuse flow and the health of existing vegetation in Zone One is not compromised and disturbed areas are stabilized until they are revegetated.	X		
Greenway/hiking trails designed, constructed and maintained to maximize nutrient removal and erosion protection, minimize adverse effects on aquatic life and habitat, and protect water quality to the maximum extent practical.		X	
Historic preservation	X		
Maintenance access on modified natural streams: a grassed travel way on one side of the water body when less impacting alternatives are not practical. The width and specifications of the travel way shall be only that needed for equipment access and operation. The travel way shall be located to maximize stream shading.		X	
Mining activities: • Mining activities that are covered by the Mining Act provided that new riparian buffers that meet the requirements of Items (7) and (8) of this Rule are established adjacent to the relocated channels • Mining activities that are not covered by the Mining Act OR where new riparian buffers that meet the requirements or Items (7) and (8) of this Rule are not established adjacent to the relocated channels • Wastewater or mining dewatering wells with approved NPDES permit	X	X	X
Playground equipment: • Playground equipment on single family lots provided that installation and use does not result in removal of vegetation • Playground equipment installed on lands other than single-family lots or that requires removal of vegetation	X	X	
Ponds created by impounding streams and not used as stormwater BMPs: • New ponds provided that a riparian buffer that meets the requirements of Items (7) and (8) of this Rule is established adjacent to the pond • New ponds where a riparian buffer that meets the requirements of Items (7) and (8) of this Rule is NOT established adjacent to the pond		X	X
Protection of existing structures, facilities and stream banks when this requires additional disturbance of the riparian buffer or the stream channel		X	
Railroad impacts other than crossings of streams and other surface waters subject to this Rule.			X

Use	Exempt*	Allowable*	Allowable with Mitigation*
Railroad crossings of streams and other surface waters subject to this Rule: • Railroad crossings that impact equal to or less than 40 linear feet of riparian buffer • Railroad crossings that impact greater than 40 linear feet but equal to or less than 150 linear feet or one-third of an acre of riparian buffer • Railroad crossings that impact greater than 150 linear feet or one-third of an acre of riparian buffer	X	X	X
Recreational and accessory structures in Zone Two: • Sheds and gazebos in Zone Two, provided they are not prohibited under local water supply ordinance: o Total footprint less than or equal to 150 square feet per lot. o Total footprint greater than 150 square feet per lot. • Wooden slatted decks and associated steps, provided the use meets the requirements of Items (7) and (8) of this Rule: o Deck at least eight feet in height and no vegetation removed from Zone One. o Deck less than eight feet in height or vegetation removed from Zone One.		X X	X X
Removal of previous fill or debris provided that diffuse flow is maintained and vegetation is restored	X		
Road impacts other than crossings of streams and other surface waters subject to this Rule			X
Road crossings of streams and other surface waters subject to this Rule: • Road crossings that impact equal to or less than 40 linear feet of riparian buffer • Road crossings that impact greater than 40 linear feet but equal to or less than 150 linear feet or one-third of an acre of riparian buffer • Road crossings that impact greater than 150 linear feet or one-third of an acre of riparian buffer	X	X	X
Road relocation: Relocation of existing private access roads associated with public road projects where necessary for public safety: • Less than or equal to 2,500 square feet of buffer impact • Greater than 2,500 square feet of buffer impact		X	X
Stormwater BMPs: • Wet detention, bioretention, and constructed wetlands in Zone Two if diffuse flow of discharge is provided into Zone One • Wet detention, bioretention, and constructed wetlands in Zone One		X	X
Scientific studies and stream gauging	X		
Streambank or shoreline stabilization		X	

Use	Exempt*	Allowable*	Allowable with Mitigation*
Temporary roads, provided that the disturbed area is restored to pre-construction topographic and hydrologic conditions immediately after construction is complete and replanted immediately with comparable vegetation, except that tree planting may occur during the dormant season. A one-time application of fertilizer may be used to establish vegetation: At the end of five years the restored buffer shall comply with the restoration criteria in Item (8) of 15A NCAC 02B .0268:			
• Less than or equal to 2,500 square feet of buffer disturbance	X		
• Greater than 2,500 square feet of buffer disturbance		X	
• Associated with culvert installation or bridge construction or replacement.		X	
Temporary sediment and erosion control devices, provided that the disturbed area is restored to pre-construction topographic and hydrologic conditions immediately after construction is complete and replanted immediately with comparable vegetation, except that tree planting may occur during the dormant season. A one-time application of fertilizer may be used to establish vegetation. At the end of five years the restored buffer shall comply with the restoration criteria in Item (8) of Rule 15A NCAC 02B .0268:			
• In Zone Two provided ground cover is established within timeframes required by the Sedimentation and Erosion Control Act, vegetation in Zone One is not compromised, and runoff is released as diffuse flow in accordance with Item (8) of this Rule.	X		
• In Zones one and two to control impacts associated with uses approved by the local government or that have received a variance, provided that sediment and erosion control for upland areas is addressed, to the maximum extent practical, outside the buffer.		X	
• In-stream temporary erosion and sediment control measures for work within a stream channel that is authorized under Sections 401 and 404 of the Federal Water Pollution Control Act.	X		
• In-stream temporary erosion and sediment control measures for work within a stream channel.		X	
Utility, electric, aerial, perpendicular crossings of streams and other surface waters subject to this Rule[2,3,5]:			
• Disturb equal to or less than 150 linear feet of riparian buffer	X		
• Disturb greater than 150 linear feet of riparian buffer		X	
Utility, electric, aerial, other than perpendicular crossings[5]:			
• Impacts in Zone Two		X	
• Impacts in Zone One[2,3]			X
Utility, electric, underground, perpendicular crossings[3,4,5]:			
• Disturb less than or equal to 40 linear feet of riparian buffer	X		
• Disturb greater than 40 linear feet of riparian buffer		X	
Utility, electric, underground, other than perpendicular crossings[4]:			
• Impacts in Zone Two	X		
• Impacts in Zone One[1]	X		

Use	Exempt*	Allowable*	Allowable with Mitigation*
Utility, non-electric, perpendicular crossings of streams and other surface waters subject to this Rule[3,5]:			
• Disturb equal to or less than 40 linear feet of riparian buffer with a maintenance corridor equal to or less than 10 feet in width	X		
• Disturb equal to or less than 40 linear feet of riparian buffer with a maintenance corridor greater than 10 feet in width		X	
• Disturb greater than 40 linear feet but equal to or less than 150 linear feet of riparian buffer with a maintenance corridor equal to or less than 10 feet in width		X	
• Disturb greater than 40 linear feet but equal to or less than 150 linear feet of riparian buffer with a maintenance corridor greater than 10 feet in width			X
• Disturb greater than 150 linear feet of riparian buffer			X
Utility, non-electric, other than perpendicular crossings[4,5]:			
• Impacts in Zone Two		X	
• Impacts in Zone One[1]			X
Vegetation management:			
• Emergency fire control measures provided that topography is restored	X		
• Mowing or harvesting of plant products in Zone Two	X		
• Planting vegetation to enhance the riparian buffer	X		
• Pruning forest vegetation provided that the health and function of the forest vegetation is not compromised	X		
• Removal of individual trees that are in danger of causing damage to dwellings, other structures or human life, or are imminently endangering stability of the streambank.	X		
• Removal of individual trees which are dead, diseased or damaged.	X		
• Removal of poison ivy	X		
• Removal of invasive exotic vegetation as defined in: *Smith, Cherri L. 1998. Exotic Plant Guidelines. Dept. of Environment and Natural Resources. Division of Parks and Recreation. Raleigh, NC. Guideline #30*	X		
Vehicular access roads leading to water-dependent structures as defined in 15A NCAC 02B .0202, provided they do not cross the surface water and have minimum practicable width not exceeding ten feet.		X	
Water dependent structures as defined in 15A NCAC 02B .0202 where installation and use result in disturbance to riparian buffers.		X	
Water supply reservoirs:			
• New reservoirs where a riparian buffer that meets the requirements of Items (7) and (8) of this Rule is established adjacent to the reservoir		X	
• New reservoirs where a riparian buffer that meets the requirements of Items (7) and (8) of this Rule is not established adjacent to the reservoir			X
Water wells			
• Single family residential water wells	X		
• All other water wells		X	

Use	Exempt*	Allowable*	Allowable with Mitigation*
Wetland, stream and buffer restoration that results in impacts to the riparian buffers: • Wetland, stream and buffer restoration that requires Division approval for the use of a 401 Water Quality Certification • Wetland, stream and buffer restoration that does not require Division approval for the use of a 401 Water Quality Certification	X	X	
Wildlife passage structures		X	

* To qualify for the designation indicated in the column header, an activity must adhere to the limitations defined for it in a given listing as well as the requirements established in Item (10) of this Rule.

[1] Provided that:

- No heavy equipment is used in Zone One.
- Vegetation in undisturbed portions of the buffer is not compromised.
- Felled trees are removed by chain.
- No permanent felling of trees occurs in protected buffers or streams.
- Stumps are removed only by grinding.
- At the completion of the project the disturbed area is stabilized with native vegetation.
- Zones one and two meet the requirements of Sub-Items (7) and (8) of this Rule.

[2] Provided that, in Zone One, all of the following BMPs for overhead utility lines are used. If all of these BMPs are not used, then the overhead utility lines shall require a no practical alternative evaluation by the local government, as defined in Item (11) of this Rule.

- A minimum zone of 10 feet wide immediately adjacent to the water body shall be managed such that only vegetation that poses a hazard or has the potential to grow tall enough to interfere with the line is removed.
- Woody vegetation shall be cleared by hand. No land grubbing or grading is allowed.
- Vegetative root systems shall be left intact to maintain the integrity of the soil. Stumps shall remain where trees are cut.
- Riprap shall not be used unless it is necessary to stabilize a tower.
- No fertilizer shall be used other than a one-time application to re-establish vegetation.
- Construction activities shall minimize the removal of woody vegetation, the extent of the disturbed area, and the time in which areas remain in a disturbed state.
- Active measures shall be taken after construction and during routine maintenance to ensure diffuse flow of stormwater through the buffer.
- In wetlands, mats shall be utilized to minimize soil disturbance.

[3] Provided that poles or aerial infrastructure shall not be installed within 10 feet of a water body unless the local government completes a no practical alternative evaluation as defined in Item (11) of this Rule.

[4] Provided that, in Zone One, all of the following BMPs for underground utility lines are used. If all of these BMPs are not used, then the underground utility line shall require a no practical alternative evaluation by the local government, as defined in Item (11) of this Rule.

- Woody vegetation shall be cleared by hand. No land grubbing or grading is allowed.
- Vegetative root systems shall be left intact to maintain the integrity of the soil. Stumps shall remain, except in the trench where trees are cut.
- Underground cables shall be installed by vibratory plow or trenching.
- The trench shall be backfilled with the excavated soil material immediately following cable installation.
- No fertilizer shall be used other than a one-time application to re-establish vegetation.
- Construction activities shall minimize the removal of woody vegetation, the extent of the disturbed area, and the time in which areas remain in a disturbed state.

- Measures shall be taken upon completion of construction and during routine maintenance to ensure diffuse flow of stormwater through the buffer.
- In wetlands, mats shall be utilized to minimize soil disturbance.

[5] Perpendicular crossings are those that intersect the surface water at an angle between 75 degrees and 105 degrees.

(10) REQUIREMENTS FOR CATEGORIES OF USES. Uses designated in Item (9) of this Rule as exempt, allowable, and allowable with mitigation within a riparian buffer shall have the following requirements:

(a) EXEMPT. Uses designated as exempt are permissible without local government authorization provided that they adhere to the limitations of the activity as defined in Item (9). In addition, exempt uses shall be designed, constructed and maintained to minimize soil disturbance and to provide the maximum water quality protection practicable, including construction, monitoring, and maintenance activities.

(b) ALLOWABLE. Uses designated as allowable may proceed provided that there are no practical alternatives to the requested use pursuant to Item (11) of this Rule. This includes construction, monitoring, and maintenance activities. These uses require written authorization from the local government.

(c) ALLOWABLE WITH MITIGATION. Uses designated as allowable with mitigation may proceed provided that there are no practical alternatives to the requested use pursuant to Item (11) of this Rule and an appropriate mitigation strategy has been approved pursuant to Item (13) of this Rule. These uses require written authorization from the local government.

(11) DETERMINATION OF "NO PRACTICAL ALTERNATIVES."

(a) Persons who wish to undertake uses designated as allowable or allowable with mitigation shall submit a request for a "no practical alternatives" determination to the local government. The applicant shall certify that the project meets all the following criteria for finding "no practical alternatives":

(i) The basic project purpose cannot be practically accomplished in a manner that would better minimize disturbance, preserve aquatic life and habitat, and protect water quality;

(ii) The use cannot practically be reduced in size or density, reconfigured or redesigned to better minimize disturbance, preserve aquatic life and habitat, and protect water quality; and

(iii) Best management practices shall be used if necessary to minimize disturbance, preserve aquatic life and habitat, and protect water quality;

(b) The applicant shall also submit at least the following information in support of their assertion of "no practical alternatives":

(i) The name, address and phone number of the applicant;

(ii) The nature of the activity to be conducted by the applicant;

(iii) The location of the activity, including the jurisdiction;

(iv) A map of sufficient detail to accurately delineate the boundaries of the land to be utilized in carrying out the activity, the location and dimensions of any disturbance in riparian buffers associated with the activity, and the extent of riparian buffers on the land;

(v) An explanation of why this plan for the activity cannot be practically accomplished, reduced or reconfigured to better minimize disturbance to the riparian buffer, preserve aquatic life and habitat and protect water quality; and

(vi) Plans for any best management practices proposed to be used to control the impacts associated with the activity.

(c) Within 60 days of a submission that addresses Sub-Item (11)(b) of this Rule, the local government shall review the entire project and make a finding of fact as to whether the criteria in Sub-Item (11)(a) have been met. A finding of "no practical alternatives" shall result in issuance of an Authorization Certificate. Failure to act within 60 days shall be construed as a finding of "no practical alternatives" and an Authorization Certificate shall be issued to the applicant unless one of the following occurs:

(i) The applicant agrees, in writing, to a longer period;

(ii) The local government determines that the applicant has failed to furnish requested information necessary to the local government's decision;

(iii) The final decision is to be made pursuant to a public hearing; or

(iv) The applicant refuses access to its records or premises for the purpose of gathering information necessary to the local government's decision.

(d) The local government may attach conditions to the Authorization Certificate that support the purpose, spirit and intent of the riparian buffer protection program.

(e) Any appeals of determinations regarding Authorization Certificates shall be referred to the Director. The Director's decision is subject to review as provided in G.S. 150B Articles 3 and 4.

(12) VARIANCES. Persons who wish to undertake prohibited uses may pursue a variance. The local government may grant minor variances. For major variances, local governments shall prepare preliminary findings and submit them to the Commission for approval. The variance request procedure shall be as follows:

(a) For any variance request, the local government shall make a finding of fact as to whether there are practical difficulties or unnecessary hardships that prevent compliance with the riparian buffer protection requirements. A finding of practical difficulties or unnecessary hardships shall require that the following conditions are met:

(i) If the applicant complies with the provisions of this Rule, he/she can secure no reasonable return from, nor make reasonable use of, his/her property. Merely proving that the variance would permit a greater profit from the property shall not be considered adequate justification for a variance. Moreover, the local government shall consider whether the variance is the minimum possible deviation from the terms of this Rule that shall make reasonable use of the property possible;

(ii) The hardship results from application of this Rule to the property rather than from other factors such as deed restrictions or other hardship;

(iii) The hardship is due to the physical nature of the applicant's property, such as its size, shape, or topography, such that compliance with provisions of this rule would not allow reasonable use of the property;

(iv) The applicant did not cause the hardship by knowingly or unknowingly violating this Rule;

(v) The applicant did not purchase the property after August 11, 2009, the effective date of this Rule, and then request a variance; and

(vi) The hardship is rare or unique to the applicant's property.

(b) For any variance request, the local government shall make a finding of fact as to whether the variance is in harmony with the general purpose and intent of the State's riparian buffer protection requirements and preserves its spirit; and

(c) For any variance request, the local government shall make a finding of fact as to whether, in granting the variance, the public safety and welfare have been assured, water quality has been protected, and substantial justice has been done.

(d) MINOR VARIANCES. A minor variance request pertains to activities that will impact only Zone Two of the riparian buffer. Minor variance requests shall be reviewed and approved based on the criteria in Sub-Items (12)(a) through (12)(c) of this Rule by the local government pursuant to G.S. 153A-Article 18, or G.S. 160A-Article 19. The local government may attach conditions to the variance approval that support the purpose, spirit and intent of the riparian buffer protection program. Request for appeals to decisions made by the local governments shall be made in writing to the Director. The Director's decision is subject to review as provided in G.S. 150B Articles 3 and 4.

(e) MAJOR VARIANCES. A major variance request pertains to activities that will impact any portion of Zone One or any portion of both Zones One and Two of the riparian buffer. If the local government has determined that a major variance request meets the requirements in Sub-Items (12)(a) through (12)(c) of this Rule, then it shall prepare a preliminary finding and submit it to the Commission for approval. Within 90 days after receipt by the local government, the Commission shall review preliminary findings on major variance requests and take one of the following actions: approve, approve with conditions and stipulations, or deny the request. Appeals from a Commission decision on a major variance request are made on judicial review to Superior Court.

(13) MITIGATION. Persons who wish to undertake uses designated as allowable with mitigation shall meet the following requirements in order to proceed with their proposed use:

(a) Obtain a determination of "no practical alternatives" to the proposed use pursuant to Item (11) of this Rule; and

(b) Obtain approval for a mitigation proposal pursuant to 15A NCAC 02B .0268.

(14) REQUIREMENTS SPECIFIC TO FOREST HARVESTING. The following requirements shall apply for forest harvesting operations and practices:

(a) All the following measures shall apply in the entire riparian buffer as applicable:

(i) Logging decks and sawmill sites shall not be placed in the riparian buffer;

(ii) Access roads and skid trails shall be prohibited except for temporary and permanent stream crossings established in accordance with 15A NCAC 01I .0203. Temporary stream crossings shall be permanently stabilized after any site disturbing activity is completed;

(iii) Timber felling shall be directed away from the stream or waterbody;

(iv) Skidding shall be directed away from the stream or water body and shall be done in a manner that minimizes soil disturbance and prevents the creation of channels or ruts;

(v) Individual trees may be treated to maintain or improve their health, form or vigor;

(vi) Harvesting of dead or infected trees as necessary to prevent or control the spread of tree pest and disease infestation shall be allowed. These practices must be approved by the Division of Forest Resources for a specific site pursuant to the rule. The Division of Forest Resources must notify the Division of all approvals;

(vii) Removal of individual trees that are in danger of causing damage to structures or human life shall be allowed;

(viii) Natural regeneration of forest vegetation and planting of trees, shrubs, or ground cover plants to enhance the riparian buffer shall be allowed provided that soil disturbance is minimized;

(ix) High-intensity prescribed burns shall not be allowed; and

(x) Application of fertilizer shall not be allowed except as necessary for permanent stabilization. Broadcast application of fertilizer to the adjacent forest stand shall be conducted so that the chemicals are not applied directly to or allowed to drift into the riparian buffer.

(b) In Zone One, forest vegetation shall be protected and maintained. Selective harvest as provided for below is allowed on forest lands that have a deferment for use value under forestry in accordance with G.S. 105-277.2 through 277.6 or on forest lands that have a forest management plan. A plan drafted under either option shall meet the standards set out in this Item. Copies of either the approval of the deferment for use value under forestry or the forest management plan shall be produced upon request. For such forest lands, selective harvest is allowed in accordance with the following:

(i) Tracked or wheeled vehicles are permitted for the purpose of selective timber harvesting where there is no other practical alternative for removal of individual trees provided activities comply with forest practice guidelines for water quality as defined in 15A NCAC 01I .0101 through .0209, and provided no equipment shall operate within the first 10 feet immediately adjacent to the stream except at stream crossings designed, constructed and maintained in accordance with Rule 15A NCAC 01I .0203;

(ii) Soil disturbing site preparation activities are not allowed; and

(iii) Trees shall be removed with the minimum disturbance to the soil and residual vegetation.

(c) In addition to the requirements of (b) in this Item, the following provisions for selective harvesting shall be met:

(i) The first 10 feet of Zone One directly adjacent to the stream or waterbody shall be undisturbed except for the removal of individual high value trees as defined provided that no trees with exposed primary roots visible in the streambank be cut unless listed as an exempt activity under Vegetation Management in the Table of Uses, Sub-Item (9) of this Rule;

(ii) In the outer 20 feet of Zone One, a maximum of 50 percent of the trees greater than five inches DBH may be cut and removed. The reentry time for harvest shall be no more frequent than every 15 years, except on forest plantations where the reentry time shall be no more frequent than every five years. In either case, the trees remaining after harvest shall be as evenly spaced as possible; and

(iii) In Zone Two, harvesting and regeneration of the forest stand shall be allowed in accordance with 15A NCAC 01I .0100 through .0200 as enforced by the Division of Forest Resources.

(15) RULE IMPLEMENTATION. This Rule shall be implemented as follows:

(a) For Division-administered activities listed in Item (3) of this Rule, the Division shall continue to implement the requirements of this Rule, which it has done since its effective date of August 11, 2009:

(b) Local governments shall continue to implement buffer programs approved by the Commission in September 2010 and January 2011, or subsequent revisions to those programs approved by the Commission or its delegated authority, to ensure that existing land use activities and proposed

development complies with local programs. These programs are required to meet the standards set out in this Rule, 15A NCAC 02B .0268, and are guided by the model buffer program approved by the Commission in September 2009. A local government shall issue an approval for new development only if the development application proposes to avoid impacts to riparian buffers defined in Item (4) of this Rule, or where the application proposes to impact such buffers, it demonstrates that the applicant has done the following, as applicable:

(i) Determined that the activity is exempt from requirements of this Rule;
(ii) Received an Authorization Certificate from the Division pursuant to Item (11) of this Rule for uses designated as Allowable or Allowable with Mitigation;
(iii) For uses designated as Allowable with Mitigation, received approval of a mitigation plan pursuant to 15A NCAC 02B .0268; and
(iv) Received a variance pursuant to Item (12) of this Rule;

(c) Local governments shall continue to submit annual reports to the Division summarizing their activities in implementing the requirements of this Rule;

(d) If a local government fails to adopt or adequately implement its program as called for in this Rule, the Division may take appropriate enforcement action as authorized by statute, and may choose to assume responsibility for implementing that program until such time as it determines that the local government is prepared to comply with its responsibilities; and

(e) LOCAL OVERSIGHT. The Division shall periodically inspect local programs to ensure that they are being implemented and enforced in keeping with the requirements of this Rule. Local governments shall maintain on-site records for a minimum of five years, and shall furnish a copy of these records to the Division within 30 days of receipt of a written request for them. Local programs' records shall include the following:

(i) A copy of all variance requests;
(ii) Findings of fact on all variance requests;
(iii) Results of all variance proceedings;
(iv) A record of complaints and action taken as a result of complaints;
(v) Records for stream origin calls and stream ratings; and
(vi) Copies of all requests for authorization, records approving authorization and Authorization Certificates.

(16) OTHER LAWS, REGULATIONS AND PERMITS. In all cases, compliance with this Rule does not preclude the requirement to comply with all other federal, state and local laws, regulations, and permits regarding streams, steep slopes, erodible soils, wetlands, floodplains, forest harvesting, surface mining, land disturbance activities, or any other landscape feature or water quality-related activity.

WOTUS: Federal Definition of a 'Waters of the U.S.'

[*Please reference the US EPA website below for the latest on the ongoing attempts to define a "water of the U.S.", (commonly abbreviated as WOTUS). Much litigation and back & forth rule changes have occurred from 2015 to 2021. At the time of this Manual's release in Jan.2022, the Navigable Waters Protection Rule was being proposed to be repealed and, at least temporarily, be replaced with the previous definition standards and 'significant nexus' interpretive guidance that existed* ***before*** *2015.*]

[*The WOTUS definition rule is important for forestry because it describes which waterways and wetlands require the implementation of the 15 mandatory BMPs for forest roads and skid trails, and 6 BMPs for mechanical site prep in wetlands. You are encouraged to practice good due-diligence, tread lightly, and fully implement BMPs when working around waterways and wetland areas that may possibly be a WOTUS*.]

- US-EPA Website: ***https://www.epa.gov/wotus***

WETLANDS: Section 404 Silvicultural Exemption

U.S. Code, Title 33, Ch. 26, Subch. IV, Part 1344 (33 U.S.C. 1344): Permits for Dredged or Fill Material

"(f) Non-prohibited discharge of dredged or fill material

(1) Except as provided in paragraph (2) of this subsection, the discharge of dredged or fill material --

(A) from normal farming, silviculture, and ranching activities such as plowing, seeding, cultivating, minor drainage, harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices;

(B) for the purpose of maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, and bridge abutments or approaches, and transportation structures;

(C) for the purpose of construction or maintenance of farm or stock ponds or irrigation ditches, or the maintenance of drainage ditches;

(D) for the purpose of construction of temporary sedimentation basins on a construction site which does not include placement of fill material into the navigable waters;

(E) for the purpose of construction or maintenance of farm roads or forest roads, or temporary roads for moving mining equipment, where such roads are constructed and maintained, in accordance with best management practices, to assure that flow and circulation patterns and chemical and biological characteristics of the navigable waters are not impaired, that the reach of the navigable waters is not reduced, and that any adverse effect on the aquatic environment will be otherwise minimized;

(F) resulting from any activity with respect to which a State has an approved program under section 1288(b)(4) of this title which meets the requirements of subparagraphs (B) and (C) of such section,

-- is not prohibited by or otherwise subject to regulation under this section or section 1311(a) or 1342 of this title (except for effluent standards or prohibitions under section 1317 of this title).

(2) Any discharge of dredged or fill material into the navigable waters incidental to any activity having as its purpose bringing an area of the navigable waters into a use to which it was not previously subject, where the flow or circulation of navigable waters may be impaired or the reach of such waters be reduced, shall be required to have a permit under this section."

WETLANDS: Discharges Not Requiring Permits (including required 15 BMPs for forest roads)

33 CFR Part 323.4 - Discharges Not Requiring Permits.

"(a) General. Except as specified in paragraphs (b) and (c) of this section, any discharge of dredged or fill material that may result from any of the following activities is not prohibited by or otherwise subject to regulation under section 404:

(1) (i) Normal farming, silviculture and ranching activities such as plowing, seeding, cultivating, minor drainage, and harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices, as defined in paragraph (a)(1)(iii) of this section.

(1) (ii) To fall under this exemption, the activities specified in paragraph (a)(1)(i) of this section must be part of an established (i.e., on-going) farming, silviculture, or ranching operation and must be in accordance with definitions in Section 323.4(a)(1)(iii). Activities on areas lying fallow as part of a conventional rotational cycle are part of an established operation. Activities which bring an area into farming, silviculture, or ranching use are not part of an established operation. An operation ceases to be established when the area on which it was conducted has been coverted to another use or has lain idle so long that modifications to the hydrological regime are necessary to resume operations. If an activity takes place outside the waters of the United States, or if it does not involve a discharge, it does not need a section 404 permit, whether or not it is part of an established farming, silviculture, or ranching operation.

(1) (iii)

(A) Cultivating means physical methods of soil treatment employed within established farming, ranching and silviculture lands on farm, ranch, or forest crops to aid and improve their growth, quality or yield.

(B) Harvesting means physical measures employed directly upon farm, forest, or ranch crops within established agricultural and silvicultural lands to bring about their removal from farm, forest, or ranch land, but does not include the construction of farm, forest, or ranch roads.

(1) (iii) (C) (1) Minor Drainage means:

(i) The discharge of dredged or fill material incidental to connecting upland drainage facilities to waters of the United States, adequate to effect the removal of excess soil moisture from upland croplands. (Construction and maintenance of upland (dryland) facilities, such as ditching and tiling, incidental to the planting, cultivating, protecting, or harvesting of crops, involve no discharge of dredged or fill material into waters of the United States, and as such never require a section 404 permit.);

(ii) The discharge of dredged or fill material for the purpose of installing ditching or other such water control facilities incidental to planting, cultivating, protecting, or harvesting of rice, cranberries or other wetland crop species, where these activities and the discharge occur in waters of the United States which are in established use for such agricultural and silvicultural wetland crop production;

(iii) The discharge of dredged or fill material for the purpose of manipulating the water levels of, or regulating the flow or distribution of water within, existing impoundments which have been constructed in accordance with applicable requirements of CWA, and which are in established use for the production of rice, cranberries, or other wetland crop species. (The provisions of paragraphs (a)(1)(iii)(C)(1) (ii) and (iii) of this section apply to areas that are in established use exclusively for wetland crop production as well as areas in established use for conventional wetland/non-wetland crop rotation (e.g., the rotations of rice and soybeans) where such rotation results in the cyclical or intermittent temporary dewatering of such areas.)

(iv) The discharges of dredged or fill material incidental to the emergency removal of sandbars, gravel bars, or other similar blockages which are formed during flood flows or

other events, where such blockages close or constrict previously existing drainageways and, if not promptly removed, would result in damage to or loss of existing crops or would impair or prevent the plowing, seeding, harvesting or cultivating of crops on land in established use for crop production. Such removal does not include enlarging or extending the dimensions of, or changing the bottom elevations of, the affected drainageway as it existed prior to the formation of the blockage. Removal must be accomplished within one year of discovery of such blockages in order to be eligible for exemption.

(1) (iii) (C) (2) Minor drainage in waters of the U.S. is limited to drainage within areas that are part of an established farming or silviculture operation. It does not include drainage associated with the immediate or gradual conversion of a wetland to a non-wetland (e.g., wetland species to upland species not typically adapted to life in saturated soil conditions), or conversion from one wetland use to another (for example, silviculture to farming). In addition, minor drainage does not include the construction of any canal, ditch, dike or other waterway or structure which drains or otherwise significantly modifies a stream, lake, swamp, bog or any other wetland or aquatic area constituting waters of the United States. Any discharge of dredged or fill material into the waters of the United States incidental to the construction of any such structure or waterway requires a permit.

(1) (iii) (D) Plowing means all forms of primary tillage, including moldboard, chisel, or wide-blade plowing, discing, harrowing and similar physical means utilized on farm, forest or ranch land for the breaking up, cutting, turning over, or stirring of soil to prepare it for the planting of crops. The term does not include the redistribution of soil, rock, sand, or other surficial materials in a manner which changes any area of the waters of the United States to dry land. For example, the redistribution of surface materials by blading, grading, or other means to fill in wetland areas is not plowing. Rock crushing activities which result in the loss of natural drainage characteristics, the reduction of water storage and recharge capabilities, or the overburden of natural water filtration capacities do not constitute plowing. Plowing as described above will never involve a discharge of dredged or fill material.

(1) (iii) (E) Seeding means the sowing of seed and placement of seedlings to produce farm, ranch, or forest crops and includes the placement of soil beds for seeds or seedlings on established farm and forest lands.

(2) Maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, bridge abutments or approaches, and transportation structures. Maintenance does not include any modification that changes the character, scope, or size of the original fill design. Emergency reconstruction must occur within a reasonable period of time after damage occurs in order to qualify for this exemption.

(3) Construction or maintenance of farm or stock ponds or irrigation ditches, or the maintenance (but not construction) of drainage ditches. Discharges associated with siphons, pumps, headgates, wingwalls, weirs, diversion structures, and such other facilities as are appurtenant and functionally related to irrigation ditches are included in this exemption.

(4) Construction of temporary sedimentation basins on a construction site which does not include placement of fill material into waters of the U.S. The term "construction site" refers to any site involving the erection of buildings, roads, and other discrete structures and the installation of support facilities necessary for construction and utilization of such structures. The term also includes any other land areas which involve land-disturbing excavation activities, including quarrying or other mining activities, where an increase in the runoff of sediment is controlled through the use of temporary sedimentation basins.

(5) Any activity with respect to which a state has an approved program under section 208(b)(4) of the CWA which meets the requirements of sections 208(b)(4)(B) and (C).

(6) Construction or maintenance of farm roads, forest roads, or temporary roads for moving mining equipment, where such roads are constructed and maintained in accordance with best management practices (BMPs) to assure that flow and circulation patterns and chemical and biological characteristics of waters of the United States are not impaired, that the reach of the waters of the United States is not reduced, and that any adverse effect on the aquatic environment will be otherwise minimized. These BMPs which must be applied to satisfy this provision shall include those detailed BMPs described in the state's approved program description pursuant to the requirements of 40 CFR Part 233.22(i), and shall also include the following baseline provisions:

(i) Permanent roads (for farming or forestry activities), temporary access roads (for mining, forestry, or farm purposes) and skid trails (for logging) in waters of the U.S. shall be held to the minimum feasible number, width, and total length consistent with the purpose of specific farming, silvicultural or mining operations, and local topographic and climatic conditions;

(ii) All roads, temporary or permanent, shall be located sufficiently far from streams or other water bodies (except for portions of such roads which must cross water bodies) to minimize discharges of dredged or fill material into waters of the U.S.;

(iii) The road fill shall be bridged, culverted, or otherwise designed to prevent the restriction of expected flood flows;

(iv) The fill shall be properly stabilized and maintained during and following construction to prevent erosion;

(v) Discharges of dredged or fill material into waters of the United States to construct a road fill shall be made in a manner that minimizes the encroachment of trucks, tractors, bulldozers, or other heavy equipment within waters of the United States (including adjacent wetlands) that lie outside the lateral boundaries of the fill itself;

(vi) In designing, constructing, and maintaining roads, vegetative disturbance in the waters of the U.S. shall be kept to a minimum;

(vii) The design, construction and maintenance of the road crossing shall not disrupt the migration or other movement of those species of aquatic life inhabiting the water body;

(viii) Borrow material shall be taken from upland sources whenever feasible;

(ix) The discharge shall not take, or jeopardize the continued existence of, a threatened or endangered species as defined under the Endangered Species Act, or adversely modify or destroy the critical habitat of such species;

(x) Discharges into breeding and nesting areas for migratory waterfowl, spawning areas, and wetlands shall be avoided if practical alternatives exist;

(xi) The discharge shall not be located in the proximity of a public water supply intake;

(xii) The discharge shall not occur in areas of concentrated shellfish production;

(xiii) The discharge shall not occur in a component of the National Wild and Scenic River System;

(xiv) The discharge of material shall consist of suitable material free from toxic pollutants in toxic amounts; and

(xv) All temporary fills shall be removed in their entirety and the area restored to its original elevation.

(b) If any discharge of dredged or fill material resulting from the activities listed in paragraphs (a)(1)-(6) of this section contains any toxic pollutant listed under section 307 of the CWA such discharge shall be subject to any applicable toxic effluent standard or prohibition, and shall require a Section 404 permit.

(c) Any discharge of dredged or fill material into waters of the United States incidental to any of the activities identified in paragraphs (a) (1)-(6) of this section must have a permit if it is part of an activity whose purpose is to convert an area of the waters of the United States into a use to which it was not previously subject, where the flow or circulation of waters of the United States may be impaired or the reach of such waters reduced. Where the proposed discharge will result in significant discernible alterations to flow or circulation, the presumption is that flow or circulation may be impaired by such alteration. For example, a permit will be required for the conversion of a cypress swamp to some other use or the conversion of a wetland from silvicultural to agricultural use when there is a discharge of dredged or fill material into waters of the United States in conjunction with construction of dikes, drainage ditches or other works or structures used to effect such conversion. A conversion of a Section 404 wetland to a non-wetland is a change in use of an area of waters of the United States. A discharge which elevates the bottom of waters of the United States without converting it to dry land does not thereby reduce the reach of, but may alter the flow or circulation of, waters of the United States.

(d) Federal projects which qualify under the criteria contained in section 404(r) of the CWA are exempt from section 404 permit requirements, but may be subject to other state or Federal requirements."

WETLANDS: 2004 Corps of Engineers Guidance for Constructing Forest Roads in Wetlands of North Carolina

[NOTE: This document mentions NCDFR, Division of Forest Resources. That was the former name of the NCFS, North Carolina Forest Service. Also note that the definition of "waters of the U.S." may be different from this memo.]

DEPARTMENT OF THE ARMY
WILMINGTON DISTRICT, CORPS OF ENGINEERS
PO BOX 1890
WILMINGTON NC 28402-1890

INFORMATION REGARDING COMPLIANCE WITH THE FEDERAL CLEAN WATER ACT SECTION 404(F)(1) PROVISIONS FOR THE CONSTRUCTION OF FOREST ROADS WITHIN WETLANDS, IN NORTH CAROLINA

Prepared By:
US Army Corps of Engineers,
Wilmington District, Regulatory Division

November 9, 2004

This document is intended to provide information to North Carolina landowners and managers, related to performing forestry activities within waters of the U.S. including streams and wetlands subject to regulation under Section 404 of the Clean Water Act (CWA) [1]. Section 404(f)(1) of the CWA lists several categories of activities that are exempt from CWA Section 404 permit requirements. Included in this list is the construction or maintenance of forest roads provided such activity adheres to all applicable best management practices (BMPs) including the baseline provisions listed at 33 CFR 323.4(a)(6).

The information included here was developed through coordination between the US Army Corps of Engineers (USACE), Wilmington District and the North Carolina Division of Forest Resources (NCDFR). This information should be used when planning for and constructing new forest roads and maintaining existing roads within waters of the US including streams and wetlands subject to CWA regulation (jurisdictional waters and/or wetlands). While the dimensions and specifications recommended here are not binding on any forestry activity or operation, they should be adequate for normal operations under most conditions. Landowners and managers should, when practicable, adhere to these recommendations to ensure compliance with the applicable BMPs.

This document is not intended to be all-inclusive. Operations adhering to these specifications may be assured that they are in compliance with the baseline provisions related to the minimization of forest road number, width, and total length (33 CFR 323.4(a)(6)(i)), and maintenance of flows and circulation patterns (33 CFR 323.4(a)(6)(iii)). In order to ensure that forest road construction maintains exempt status, landowners and managers are required to abide by all of the baseline provisions

[1] Waters of the U.S. is defined at 33 CFR 328.3(a): Generally, the term waters of the U.S. includes; 1) all navigable waters, 2) all tributaries of navigable waters, which may include perennial or intermittent streams, modified streams or man-made ditches that discharge either directly or eventually into navigable waters, 3) all impoundments of navigable waters or their tributaries, such as sounds, ponds or lakes, and 4) any wetlands adjacent to navigable waters or their tributaries.

listed at 33 CFR 323.4(a)(6) as well as all applicable State BMP's and regulations. Those BMPs and baseline provisions not specifically addressed here remain in effect and compliance with these is required. Landowners and managers should become familiar with all relevant regulations before undertaking a project. Further information may be obtained from the NCDFR home page at www.dfr.state.nc.us, the Wilmington District, Regulatory Division's home page at www.saw.usace.army.mil/wetlands, or by contacting your local forester or Corps Regulatory Office.

FOREST ROADS

Construction or maintenance of forest roads is considered exempt from CWA Section 404 permit requirements provided such roads are constructed and/or maintained in accordance with certain best management practices (BMP's) aimed at ensuring every effort to minimize impacts to aquatic resources including streams and wetlands is made. To be considered exempt from permitting requirements, any forest road constructed within jurisdictional wetlands, must be necessitated by a silvicultural activity undertaken in the production of forest products. For example, a road constructed primarily for recreational or residential access is not exempt under CWA 404(f)(1). While a forest road may be used for multiple purposes, the primary use must be for a timber producing activity and the road may be constructed only to the minimum dimensions necessary for that timber producing activity.

CONSTRUCTION OF NEW ROADS

In attempting to minimize impacts to aquatic resources, landowners and managers should first consider whether construction of new roads could be avoided by responsible timing of logging, reforestation and/or management activities. Landowners and managers should also utilize upland areas for road construction to the extent feasible. When construction of new forest roads in jurisdictional waters or wetland is necessary, landowners and managers should consider use of temporary roads when practicable, and remove such roads upon completion of the silvicultural activity.

Whether constructing temporary or permanent forest roads, landowners and managers must adhere to all applicable BMP's including the baseline provisions listed at 33 CFR 323.4(6). The BMPs do not restrict forest roads to any specific number, width or length. They do however, include the provision that permanent or temporary roads ***"...shall be held to the minimum feasible number, width, and total length consistent with the purpose of the specific farming, silvicultural or mining operations, and local topographic and climatic conditions".***

Perhaps the most direct way of minimizing impacts to aquatic resources is through responsible planning and design with regard to road placement and dimensions. The

following are suggested design specifications that should, in most cases, minimize impacts to aquatic resources while allowing forestry operations to proceed in a safe and economically viable fashion.

Road Placement

Every attempt should be made to limit the number and length of forest roads to the minimum feasible. This is best accomplished by responsible planning prior to road construction. In most cases, skidding distances of ¼ mile are reasonable, and result in minimal damage to the site and the timber resource. Therefore, forest roads should normally be constructed a minimum of ½ mile apart and should terminate no closer to the outer boundary of the logging or timber management areas being accessed than ¼ mile.

Road Construction

It is generally accepted that single lane roads with periodic turnouts are sufficient for most normal forestry activities. It is also commonly accepted that most operations large enough in scale to necessitate road construction will employ tractor-trailer type logging trucks. Road top widths should therefore normally be limited to the travel surface necessary to accommodate single lane tractor–trailer traffic plus additional shoulders appropriate to provide adequate safety and road stability. Travel surfaces 12 to 14 feet wide, with a maximum 3 to 4 foot wide shoulder on each side are in most cases sufficient. This would result in a total top width of 18 to 22 feet **(Figure 1)**.

Road height will be largely dependant on site conditions and access requirements. The height of a road and corresponding side slopes should be kept to the minimum necessary for silviculture activities to be conducted safely and economically. Typically, 2:1 side slopes will provide sufficient stability for roads used in normal silvicultural operations. In most instances where forest roads are constructed by excavation of material from adjacent borrow ditches or swales, a final road height of 1 to 2 feet above the existing substrate is adequate. Using a slope ratio of 2:1, side slopes on a 1 to 2 foot high road will normally be 2 to 4 feet wide on each side of the road **(Figure 1)**.

Turnouts are areas designed to allow vehicular traffic to pass. These areas should be of adequate width to allow two tractor-trailer units to safely pass one another. In most cases, twice the total top width discussed previously (18 to 22 feet) plus an adequate safety margin should be sufficient. The length of each turnout should be limited to that necessary for one unit to pull over and stop, allowing a second unit to pass. Spacing of these turnouts will be determined by horizontal sight distance and traffic loads. Normally, forest roads are low traffic roads and, in flatter terrain, have ample horizontal sight distances, allowing turnouts to be spaced at ½ mile intervals.

Where it is not practicable to obtain fill material for use in road construction from an upland source, it is common practice to borrow this material from onsite wetland areas by excavating a borrow ditch or swale immediately adjacent the roadway being constructed. As stated in 33 CFR 323.4(c), activities will require a permit if such activities act to reduce the reach of Waters of the United States. In other words, the borrow ditches should not be constructed in a manner that would facilitate draining or significantly modifying the hydrology of the wetland area. Borrow ditches or swales should not be connected either permanently or temporarily to any outfall including existing drainage ditches, canals, creeks, streams or other natural or man-made drainage features. To avoid unintended drainage resulting from a hydraulic connection between a borrow ditch and an existing drainage feature, borrow ditches should terminate a sufficient distance from the existing drainage feature (generally 50 – 150 ft, depending on soil type and site conditions).

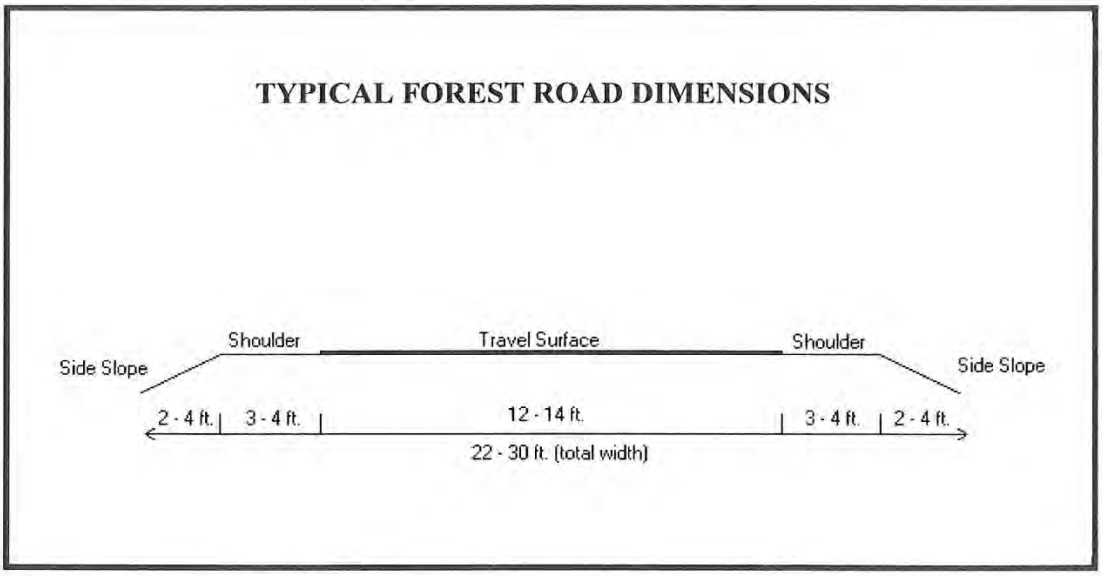

Figure 1. Dimensions of a typical forest road constructed in wetlands. In general a top width of 18 – 22 ft., made up of a 12 – 14 ft. wide travel surface with 3 – 4 ft. shoulders on either side, should be sufficient. Road heights of 1 – 2 ft. with 2:1 side slopes will result in total widths of 22 – 30 ft.

It is further stated in 33 CFR 323.4(c) that activities will require a permit if such activities act to impair the flows or circulation of Waters of the United States. Therefore, roads should be culverted or bridged across sloughs, streams, natural drains, or areas of ponded or standing water to allow for natural lateral movement of surface waters from one side of the road to the other.

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MAINTENANCE OF EXISTING ROADS

As specified in 33 CFR 330.3, activities occurring in certain jurisdictional areas after the listed "phase-in-dates"[2] are subject to the permit requirements of Section 404. Activities occurring prior to these phase-in-dates were permitted by Nationwide Permits issued July 19, 1977 and require no further permitting provided they are not modified. Therefore, roads constructed in wetlands prior to these phase-in-dates are, by statue, permitted, regardless of dimension and there is no need to apply these guidelines. Maintenance of these existing roads would not require a permit provided the maintenance activity does not substantially exceed the scale of the original construction (e.g. enlarging from single to double lane, extending into new area, adding fill material to areas not previously filled). If an existing road, installed prior to the phase-in dates, is substantially modified, that modification must comply with the exemption or be permitted. Any road constructed in waters of the US after July 1977 must comply with the necessary BMP's and Baseline Provisions in order to be considered exempt. Roads constructed in waters of the US that do not meet the exemption criteria and were not permitted, are unauthorized activities.

We fully realize that the guidelines included here may not be feasible for all operations. These specifications are intended for normal forestry operations under most conditions. Landowners and managers may utilize these guidelines as an aid in determining when construction or maintenance of forest roads would be considered exempt pursuant to CWA Section 404(f)(1).

Large-scale operations and/or operations carried out on tracts presenting atypical environmental or logistical concerns may require deviation from these recommendations. Operations exceeding these specifications will not necessarily be considered non-exempt. However, landowners and managers may be required to adequately demonstrate the need for the additional construction. Landowners and managers whose operations may exceed these recommendations are encouraged to contact the NCDFR or the local Corps Regulatory office prior to initiating work to ensure the discharge is not prohibited by, or otherwise subject to, regulation under CWA Section 404.

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[2] The "phase-in-dates" are as follows: July 25, 1975, for discharges into navigable waters of the United States and adjacent wetlands; September 1, 1976, for discharges into navigable waters of the United States and their primary tributaries, including adjacent wetlands, and into natural lakes, greater than 5 acres in surface area; and July 1, 1977, for discharges into all waters of the United States, including wetlands.

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[NOTE: For information about this roads guidance document, contact the U.S. Army Corps of Engineers, at their Wilmington District, Regulatory Permit Program.]

WETLANDS: Six Required BMPs for Mechanical Site Prep, and Nine Wetlands that Require a Permit

[Note that the current definition of "waters of the U.S." may be different from what is cited in this memo.]

United States Environmental Protection Agency
Office of Wetlands, Oceans and Watersheds
Washington, D.C. 20460

United States Department of the Army
U.S. Army Corps of Engineers
Washington, D.C. 20314

NOV 28 1995

MEMORANDUM TO THE FIELD -- Corps and EPA Regulatory Program Chiefs

SUBJECT: Application of Best Management Practices to Mechanical Silvicultural Site Preparation Activities for the Establishment of Pine Plantations in the Southeast

This memorandum[1] clarifies the applicability of forested wetlands best management practices to mechanical silvicultural site preparation activities for the establishment of pine plantations in the Southeast. Mechanical silvicultural site preparation activities[2] conducted in accordance with the best management practices discussed below, which are designed to minimize impacts to the aquatic ecosystem, will not require a Clean Water Act Section 404 permit. These best management practices further recognize that certain wetlands should not be subject to unpermitted mechanical silvicultural site preparation activities because of the adverse nature of potential impacts associated with these activities on these sites.

This memorandum recognizes State expertise that is reflected in the development and implementation of regionally specific best management practices (BMPs) associated with forestry activities in wetlands. Such BMPs encourage sound silvicultural operations while providing protection of certain wetlands functions and values. The U.S. Army Corps of Engineers (Corps) and the U.S. Environmental Protection Agency (EPA) believe that it is appropriate to apply the Clean Water Act Section 404 program in a manner that builds from, and is consistent with, this State experience. The Agencies will support and assist State efforts to build upon these BMPs at the State level, to ensure that mechanical silvicultural site preparation is conducted in a manner that best reflects the specific wetlands resource protection and management goals of each State.

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[1]This guidance is written to provide interpretation and clarification of existing EPA and Corps regulations and does not change any substantive requirements of these regulations. This memorandum is further intended to provide clarification regarding the exercise of discretion under current agency regulations.

[2]Mechanical silvicultural site preparation activities include shearing, raking, ripping, chopping, windrowing, piling, and other similar physical methods used to cut, break apart, or move logging debris following harvest for the establishment of pine plantations.

1

Introduction

Forested wetlands exhibit a wide variety of water regimes, soils, and vegetation types that in turn provide a myriad of functions and values. The States in the Southeast contain forested wetlands systems that in many cases are also subject to ongoing timber operations. In developing silvicultural BMPs, States have identified those specific forestry practices that will protect water quality. This guidance was developed to respond to questions regarding the applicability of Section 404 to mechanical silvicultural site preparation activities. EPA and the Corps relied extensively on existing State knowledge to protect aquatic ecosystems with BMPs, including the types of wetlands, types of activities, and BMPs described below.

This memorandum reflects information gathered from the southeastern United States, where mechanical silvicultural site preparation activities are associated with the establishment of pine plantations in wetlands.[3] As such, this memorandum, and particularly the descriptions of wetlands, activities, and BMPs, necessarily focus on this area of the country. However, the guidance presented is generally applicable when addressing mechanical silvicultural site preparation activities in wetlands elsewhere in the country.

Circumstances Where Mechanical Silvicultural Site Preparation Activities Require a Permit

The States, in coordination with the forestry community and the public, have recognized that mechanical silvicultural site preparation activities may have measurable and significant impacts on aquatic ecosystems when conducted in wetlands that are permanently flooded, intermittently exposed, and semi-permanently flooded, and in certain additional wetland communities that exhibit aquatic functions and values that are more susceptible to impacts from these activities. For the wetland types identified in this section, it is most effective to evaluate proposals for site preparation and potential associated environmental effects on a case-by-case basis as part of the individual permit process. Therefore, mechanical silvicultural site preparation activities in the areas listed below require a permit.[4]

A permit will be required in the following areas unless they have been so altered through past practices (including the installation and continuous maintenance of water management structures) as to no longer exhibit the distinguishing characteristics described below (see "Circumstances Where Mechanical Silvicultural Site Preparation

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[3] *Information was considered from the following States in the Southeast: Virginia, North Carolina, South Carolina, Georgia, Florida, Tennessee, Alabama, Mississippi, Louisiana, and Arkansas.*

[4] *The community descriptions draw extensively from: Schafale, M.P., and A.S. Weakley. 1990. Classification of the Natural Communities of North Carolina. North Carolina Natural Heritage Program, Raleigh, NC. 325pp.*

Activities Do Not Require a Permit" below). Of course, discharges incidental to activities in any wetlands that convert waters of the United States to non-waters always require authorization under Clean Water Act Section 404.

1) Permanently flooded, intermittently exposed, and semi-permanently flooded wetlands. The hydrology of permanently flooded wetland systems is characterized by water that covers the land surface throughout the year in all years. The hydrology of intermittently exposed wetlands is characterized by surface water that is present throughout the year except in years of extreme drought. The hydrology of semi-permanently flooded wetlands is characterized by surface water that persists throughout the growing season in most years and, when it is absent, the water table is usually at or very near the land surface.[5] Examples typical of these wetlands include Cypress-Gum Swamps, Muck and Peat Swamps, and Cypress Strands/Domes.

2) Riverine Bottomland Hardwood wetlands: seasonally flooded (or wetter) bottomland hardwood wetlands within the first or second bottoms of the floodplains of river systems. Site-specific characteristics of hydrology, soils, vegetation, and the presence of alluvial features elaborated in paragraphs a, b, and c below will be determinative of the boundary of riverine bottomland hardwood wetlands. National Wetlands Inventory maps can provide a useful reference for the general location of these wetlands on the landscape.

a) the hydrologic characteristics included in this definition refer to seasonally flooded or wetter river floodplain sites where overbank flooding has resulted in alluvial features such as well-defined floodplains, bottoms/terraces, natural levees, and backswamps. For the purposes of this guidance definition, "seasonally flooded" bottomland hardwood wetlands are characterized by surface water that is present for extended periods, especially early in the growing season[6] (usually greater than 14 consecutive days), but is absent by the end of the season in most years. When surface water is absent, the water table is often near the land surface. Field indicators of the presence of surface water include water-stained leaves, drift lines, and water marks on trees.

b) the vegetative characteristics included in this definition refer to forested wetlands where hardwoods dominate the canopy. For the purposes of this guidance definition, riverine bottomland hardwoods do not include sites in which greater than 25% of the canopy is pine.

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[5]*Cowardin, L.M., et al. 1979. Classification of wetlands and deepwater habitats of the United States. U.S. Fish and Wildlife Service, Washington, DC. 131pp.*

[6]*Consistent with the 1987 Corps of Engineers Wetlands Delineation Manual, growing season starting and ending dates are determined by the 28 degrees F or lower temperature threshold.*

c) the soil characteristics included in this definition refer to listed hydric soils that are poorly drained or very poorly drained. For the purposes of this guidance definition, riverine bottomland hardwoods do not include sites with hydric soils that are somewhat poorly drained or that, at a particular site, do not demonstrate chroma, concretions, and other field characteristics verifying it as a hydric soil.

3) White Cedar Swamps: wetlands, greater than one acre in headwaters and greater than five acres elsewhere, underlain by peat of greater than one meter, and vegetated by natural white cedar representing more than 50% of the basal area, where the total basal area for all tree species is 60 square feet or greater.

4) Carolina Bay wetlands: oriented, elliptical depressions with a sand rim, either a) underlain by clay-based soils and vegetated by cypress; or, b) underlain by peat of greater than one-half meter and typically vegetated with an overstory of Red, Sweet, and Loblolly Bays.

5) Non-riverine Forest Wetlands: wetlands in this group are rare, high quality wet forests, with mature vegetation, located on the Southeastern coastal plain, whose hydrology is dominated by high water tables. Two forest community types fall into this group:[7]

a) Non-riverine Wet Hardwood Forests -- poorly drained mineral soil interstream flats (comprising 10 or more contiguous acres), typically on the margins of large peatland areas, seasonally flooded or saturated by high water tables, with vegetation dominated (greater than 50% of basal area per acre) by swamp chestnut oak, cherrybark oak, or laurel oak alone or in combination.

b) Non-riverine Swamp Forests -- very poorly drained flats (comprising 5 or more contiguous acres), with organic soils or mineral soils with high organic content, seasonally to frequently flooded or saturated by high water tables, with vegetation dominated by bald cypress, pond cypress, swamp tupelo, water tupelo, or Atlantic white cedar alone or in combination.

The term "high quality" used in this characterization refers to generally undisturbed forest stands, whose character is not significantly affected by human activities (e.g., forest management). Non-riverine Forest wetlands dominated by red maple, sweetgum, or loblolly pine alone or in combination are not considered to be of high quality, and therefore do not require a permit.

6) Low Pocosin wetlands: central, deepest parts of domed peatlands on poorly drained interstream flats, underlain by peat soils greater than one meter, typically vegetated by a dense layer of short shrubs.

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[7]*These forest types are a subset of those described in Schafale and Weakley, 1990.*

7) Wet Marl Forests: hardwood forest wetlands underlain with poorly drained marl-derived, high pH soils.

8) Tidal Freshwater Marshes: wetlands regularly or irregularly flooded by freshwater with dense herbaceous vegetation, on the margins of estuaries or drowned rivers or creeks.

9) Maritime Grasslands, Shrub Swamps, and Swamp Forests: barrier island wetlands in dune swales and flats, underlain by wet mucky or sandy soils, vegetated by wetland herbs, shrubs, and trees.

Circumstances Where Mechanical Silvicultural Site Preparation Activities Do Not Require a Permit

Mechanical silvicultural site preparation activities in wetlands that are seasonally flooded, intermittently flooded, temporarily flooded, or saturated, or in existing pine plantations and other silvicultural sites (except as listed above), minimize impacts to the aquatic ecosystem and do not require a permit if conducted according to the BMPs listed below. Of course, silvicultural practices conducted in uplands never require a Clean Water Act Section 404 permit.

The hydrology of seasonally flooded wetlands is characterized by surface water that is present for extended periods, especially early in the growing season, but is absent by the end of the season in most years (when surface water is absent, the water table is often near the surface). The hydrology of intermittently flooded wetland systems is characterized by substrate that is usually exposed, but where surface water is present for variable periods without detectable seasonable periodicity. The hydrology of temporarily flooded wetlands is characterized by surface water that is present for brief periods during the growing season, but also by a water table that usually lies well below the soil surface for most of the season. The hydrology of saturated wetlands is characterized by substrate that is saturated to the surface for extended periods during the growing season, but also by surface water that is seldom present.[8] Examples typical of these wetlands include Pine Flatwoods, Pond Pine Woodlands, and Wet Flats (e.g., certain pine/hardwood forests).

Best Management Practices

Every State in the Southeast has developed BMPs for forestry to protect water quality and all but two have also developed specific BMPs for forested wetlands. These BMPs have been developed because silvicultural practices have the potential to result in impacts to the aquatic ecosystem. Mechanical silvicultural site preparation activities include shearing, raking, ripping, chopping, windrowing, piling, and other similar physical methods used to cut, break apart, or move logging debris following harvest. Impacts such as soil compaction, turbidity, erosion, and hydrologic modifications can result if not

[8] *Cowardin et al., 1979.*

effectively controlled by BMPs. States have developed BMPs that address not only types of wetlands and types of activities, but also detail specific measures to protect water quality through establishing special management zones, practices for stream crossings, and practices for forest road construction.

In developing forested wetlands BMPs, States in the Southeast have recognized that certain silvicultural site preparation techniques are more effective when conducted in areas that have drier water regimes. The BMPs stated below represent a composite of State expertise to protect water quality from silvicultural impacts. These BMPs also address the location, as well as the nature, of activities. The Corps and EPA believe that these forested wetlands BMPs are effective in protecting water quality and therefore are adopting them to protect these functions and values considered under Section 404.

The following forested wetlands BMPs are designed to minimize the impacts associated with mechanical silvicultural site preparation activities in circumstances where these activities do not require a permit (authorization from the Corps is necessary for discharges associated with silvicultural site preparation in wetlands described above as requiring a permit[9]). The BMPs include, at a minimum, the following:

1) position shear blades or rakes at or near the soil surface and windrow, pile, and otherwise move logs and logging debris by methods that minimize dragging or pushing through the soil to minimize soil disturbance associated with shearing, raking, and moving trees, stumps, brush, and other unwanted vegetation;

2) conduct activities in such a manner as to avoid excessive soil compaction and maintain soil tilth;

3) arrange windrows in such a manner as to limit erosion, overland flow, and runoff;

4) prevent disposal or storage of logs or logging debris in streamside management zones -- defined areas adjacent to streams, lakes, and other waterbodies -- to protect water quality;

5) maintain the natural contour of the site and ensure that activities do not immediately or gradually convert the wetland to a non-wetland; and

6) conduct activities with appropriate water management mechanisms to minimize off-site water quality impacts.

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[9]*Contact the nearest Corps District listed at the end of this document for further information.*

Implementation

EPA and the Corps will continue to work closely with State forestry agencies to promote the implementation of consistent and effective BMPs that facilitate sound silvicultural practices. In those States where no BMPs specific to mechanical silvicultural site preparation activities in forested wetlands are currently in place, EPA and the Corps will coordinate with those States to develop BMPs. In the interim, mechanical silvicultural site preparation activities conducted in accordance with this guidance will not require a Section 404 permit.

In order to ensure consistency in the application of this guidance over time, changes to the vegetation of forested wetlands associated with human activities conducted after the issuance of this guidance will not alter its applicability. For example, this guidance is not intended to establish the requirement for a permit for mechanical silvicultural site preparation where tree harvesting results in the establishment of site characteristics for which a permit would otherwise be required (e.g., where the selective cutting of naturally occurring pine in a Riverine Bottomland Hardwood wetland site with originally greater than 25% pine in the canopy results in a site "where hardwoods dominate the canopy"). In a similar manner, while harvesting of timber consistent with the requirements of Section 404(f) is exempt from regulation and natural changes (e.g., wildfire, succession) may change site characteristics, human manipulation of the vegetative characteristics of a site does not alter its status for the purposes of this guidance (e.g., removal of all the Atlantic White Cedar in an Atlantic White Cedar Swamp does not eliminate the need for a permit for mechanical silvicultural site preparation if the area would have required a permit before the removal of the trees).

Finally, the Agencies will encourage efforts at the State level to identify additional wetlands which may be of special concern and could be incorporated into State BMPs and cooperative programs, initiatives, and partnerships to protect these wetlands. To facilitate this effort, stakeholders are encouraged to develop a process after the issuance of this guidance to identify and protect unique and rare wetland sites on lands of the participating stakeholders. EPA and the Corps will monitor the application of this guidance, progress with conserving special wetland sites through cooperative programs and initiatives, and consider any new information, such as advances in silvicultural practices, improvements to State BMPs, or data relevant to potential impacts to wetlands, to determine whether the list of wetlands subject to the permit requirement should be modified or other revisions to this guidance are appropriate.

[NOTE: For information about this guidance memo, contact the U.S. Army Corps of Engineers, at their Wilmington District, Regulatory Permit Program: 910-251-4633.]

WETLANDS: Joint Agency Guidance Memo on Maintenance of Drainage Ditches and Construction/Maintenance of Irrigation Ditches

[Note that the current definition of "waters of the U.S." may be different from what is cited in this memo.]

JOINT MEMORANDUM TO THE FIELD BETWEEN THE U.S. DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS AND THE U.S. ENVIRONMENTAL PROTECTION AGENCY CONCERNING EXEMPT CONSTRUCTION OR MAINTENANCE OF IRRIGATION DITCHES AND EXEMPT MAINTENANCE OF DRAINAGE DITCHES UNDER SECTION 404 OF THE CLEAN WATER ACT

I. INTRODUCTION

The U.S. Army Corps of Engineers ("Corps") and the U.S. Environmental Protection Agency ("EPA") (together, "the agencies"), implement Section 404 of the Clean Water Act ("CWA").[1] Section 404 of the CWA regulates the discharge of dredged or fill material into the navigable waters, which the CWA defines as "waters of the United States, including the territorial seas." 33 U.S.C. 1344 and 1362. The agencies are signing this memorandum to provide a clear, consistent approach regarding the application of the exemptions from regulation under Section 404(f)(1)(C) of the CWA for the construction or maintenance of irrigation ditches and for the maintenance of drainage ditches ("ditch exemptions").

This memorandum supersedes previous Corps Regulatory Guidance Letter ("RGL") 07-02, which superseded RGL 87-07. In an effort to provide greater clarity, this memorandum defines the following terms for purposes of implementing the ditch exemptions: "irrigation ditch," "drainage ditch," "construction," and "maintenance." This memorandum also provides a framework for determining the applicability of the ditch exemptions and the "recapture provision" in CWA Section 404(f)(2).

The contents of this document do not have the force and effect of law and are not meant to bind the public in any way. This document is intended only to provide clarity to the public regarding existing requirements under the law or agency policies.

II. BACKGROUND

a. Under Section 404(f)(1)(C) of the CWA (*see also* 33 CFR 323.4(a)(3) and 40 CFR 232.3(c)(3)), discharges of dredged or fill material for the purpose of construction or maintenance of jurisdictional irrigation ditches, or the maintenance (but not construction) of jurisdictional drainage ditches, are not prohibited by or otherwise subject to regulation under Section 404 of the CWA (*i.e.*, these activities are exempt from the need to obtain a Section 404 permit).

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[1] In a 1979 opinion, the U.S. Attorney General Benjamin R. Civiletti determined that EPA has the ultimate responsibility for interpreting the CWA Section 404(f) exemptions. *See* 43 Op. Att'y Gen. 197 (Sept. 5, 1979), https://www.epa.gov/cwa-404/1979-civiletti-memorandum-under-cwa-section-404f. Attorney General Civiletti stated that it is the EPA Administrator who has general responsibility under the Act (33 U.S.C. 1251(d)), and who has general authority to prescribe regulations (33 U.S.C. 1361(a)).

b. Section 404(f)(2) of the CWA states that "[a]ny discharge of dredged or fill material into the navigable waters incidental to any activity having as its purpose bringing an area of navigable waters into a use to which it was not previously subject, where the flow or circulation of navigable waters may be impaired or the reach of such waters be reduced, shall be required to have a permit under this section." This is commonly referred to as the "recapture provision"; see paragraph c of this section for the regulations implementing this provision.

c. Under 33 CFR 323.4(c) and 40 CFR 232.3(b), exemptions under 33 CFR 323.4(a)(1)-(6) and 40 CFR 232.3(c)(1)-(6) do not apply if the discharge into a water of the United States "is part of an activity whose purpose is to convert an area of the waters of the United States into a use to which it was not previously subject, where the flow or circulation of waters of the United States may be impaired or the reach of such waters reduced. Where the proposed discharge will result in significant discernable alterations to flow or circulation, the presumption is that flow or circulation may be impaired by such alteration."

III. DEFINITIONS

a. On April 21, 2020, the agencies promulgated a definition of the term "ditch," to mean "a constructed or excavated channel used to convey water." 85 FR 22250. The agencies believe that a clear definition of this term is useful in the context of the ditch exemptions independent of the regulatory text defining "waters of the United States," and therefore this same definition is hereby adopted for the purpose of this memorandum. However, when referred to in this memorandum, the term "ditch" specifically refers to irrigation and drainage ditches.

b. The agencies' regulations define "discharge of dredged material" and "discharge of fill material." *See* 33 CFR 323.2(d) and (f), and 40 CFR 232.2.

c. The agencies' regulations define "waters of the United States." *See* 33 CFR 328.3 and 40 CFR 120.2. It has been the agencies' longstanding practice that certain ditches generally are not considered waters of the United States. However, certain ditches may be a water of the United States, such as certain ditches constructed in or through a jurisdictional water, including a jurisdictional wetland.

d. For the purposes of this memorandum, "irrigation ditch" is defined as a ditch (as defined in paragraph III.a above) that either conveys water to an ultimate irrigation use or place of use ("irrigation water"), or that moves and/or conveys irrigation water (*e.g.*, "run-off" from irrigation) away from irrigated lands ("irrigation return flows").

e. For the purposes of this memorandum, "drainage ditch" is defined as a ditch (as defined in paragraph III.a above) where increasing drainage of a particular land area or infrastructure is at least part of the designed purpose. This includes the following ditch use categories: agricultural, transportation (*e.g.*, roadside, railroad), mosquito abatement, and stormwater management.

f. For the purposes of this memorandum, "related structure" is defined as a structure which is appurtenant to, and functionally related to, an irrigation ditch. Examples of such related structures include, but are not limited to: siphons, pipes, pumps or pump systems, grade control structures, headgates, wingwalls, weirs, diversion structures, and such other facilities. The key to whether a structure is a "related structure" and potentially covered by the irrigation ditch exemption is whether the structure affects the ability (*e.g.*, capacity, design velocities) of the ditch to convey water as designed.

g. For the purposes of this memorandum, "maintenance" is defined as the activity undertaken to preserve or restore the original designed purpose and approximate capacity of the original, as-built configuration of a ditch. Maintenance includes a repair to an existing structure or feature to keep the ditch in its existing state or proper condition, or to preserve it from failure or decline.

h. For the purposes of this memorandum, "construction" is defined as new work, or work that results in a relocation, an extension, or an expansion of an existing ditch and/or related structure. In general, the construction of an irrigation ditch must be intended to primarily serve an irrigation purpose in order for the construction activity to be exempt.

IV. GUIDANCE FOR APPLYING THE DITCH EXEMPTIONS

General Guidance. To determine whether one of the ditch exemptions applies, the following steps should be analyzed:

a. Step 1 is to determine whether the proposed activity will occur in waters of the United States. The agencies' regulations and associated preamble language, guidance documents, and technical manuals may be used to make this determination. If the proposed activity will not occur in waters of the United States, the proposed activity is not prohibited by nor regulated under Section 404 of the CWA.

b. Step 2 is to determine whether the proposed activity involves a discharge of dredged and/or fill material. As noted in paragraph III.b above, the agencies' regulations define these terms. If no discharge of dredged and/or fill material will occur, the proposed activity is not prohibited by nor regulated under Section 404 of the CWA.

c. Step 3 is to determine whether the proposed activity involves an "irrigation ditch" or a "drainage ditch" according to the definitions in Section III of this memorandum. The following clarifications may assist in making this determination:

- Irrigation Ditches:
  - Related structures, as defined in paragraph III.f above, are included in the scope of the irrigation ditch exemption.
  - If a ditch carries only irrigation water, irrigation return flows, and/or overland flow (precipitation and/or snowmelt) to and/or from an irrigated area, that ditch would be considered an irrigation ditch, not a drainage ditch.
  - A ditch that diverts water from a waterbody (*e.g.*, stream, lake, or reservoir) for irrigation purposes is an irrigation ditch and does not become a drainage ditch even if a substantial portion of the flow into or volume of the waterbody is diverted by the irrigation ditch.
- Drainage Ditches:
  - Where a ditch would have the effect of draining wetlands (other than wetlands established due to the presence of irrigation water), the ditch would be considered a drainage ditch, not an irrigation ditch, even if used for irrigation.

d. Step 4 is to determine whether the proposed activity is "maintenance," which is exempt for irrigation and drainage ditches, or "construction," which is exempt for irrigation ditches only.[2] The following clarifications may assist in making this determination:

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[2] In many cases, accurate historical records are not available to determine the "as-built" specifications of the original ditch and/or related structures. In these cases, agency staff should work closely with the project proponent to establish an appropriate maintenance depth and/or reference an appropriate structure design to restore the ditch's original designed

- Maintenance (for both irrigation and drainage ditches):
  - Removal of material, including vegetation, from an existing ditch such as by dredging or recontouring in accordance with the historical design and purpose of the ditch, qualifies as maintenance. However, the ditch must not be deepened such that it would drain additional areas compared to the original design.
  - Minor changes to the cross-section of the ditch to conform with current engineering standards (*e.g.*, where more graduated side-slopes result in greater stability) qualify as maintenance, so long as those modifications of the ditch will not result in the drainage, degradation, or destruction of additional jurisdictional waters.
  - Replacement or repair of existing related structure(s) qualify as maintenance as long as the original purpose of the structure is not changed and original approximate capacity of the irrigation ditch or related structures are not increased. Activities related to structures that were not designed to contribute to the original purpose and capacity of the ditch are not covered by the maintenance portion of the irrigation ditch exemption or the drainage ditch exemption. There may, however, be circumstances where a drainage ditch includes associated structures which may be evaluated on a case-by-case basis as to whether the maintenance of such structures is exempt.
- Construction (for irrigation ditches only):
  - Relocation of existing ditches or tributaries, and converting existing ditches into pipes, qualifies as construction. However, these actions should be analyzed in Step 5, below, to determine whether they would be subject to the recapture provision.
- Maintenance (for irrigation and drainage ditches) and/or Construction (for irrigation ditches only) Depending on the Site-specific Circumstances:
  - Sidecasting, for purposes of this memorandum, is the casting of dredged or excavated material to the side of or near the ditch being constructed or maintained. Sidecasting of any dredged material for the purpose of construction or maintenance of jurisdictional irrigation ditches, or the maintenance (but not construction) of jurisdictional drainage ditches, into jurisdictional wetlands or other waters of the United States is exempt. However, these actions should be analyzed in Step 5, below, to determine whether the sidecasting would be subject to the recapture provision.
  - Armoring, lining, and/or piping repair activities qualify as maintenance only where a previously armored, lined, or piped section is being repaired and all work occurs within the footprint of the previous work. All new lining of ditches, where the ditch had not previously been lined, is considered construction.
  - Temporary discharges of fill material in waters of the United States that would be used to facilitate the completion of the exempt ditch maintenance and ditch construction activities described above, such as the placement of temporary cofferdams for erosion and sediment control purposes, are also exempt under Section 404(f)(1)(C) of the CWA, provided the temporary fills are not recaptured under Step 5, below, and provided the temporary fills are removed from waters of the United States in their entirety upon completion of the ditch maintenance or ditch construction activity.

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purpose and approximate capacity, while meeting the spirit of the exemption and ensuring adequate protection of aquatic resources. In situations where the potential applicability of the exemption under CWA Section 404(f)(1)(C) to a proposed activity has been raised to the District, and where the District cannot make a determination due to a lack of pertinent factual information, the District should request additional documentation or supporting evidence from the project proponent or inform the proponent that the activity may not qualify for the exemption.

e. Step 5 is to determine applicability of the "recapture provision." CWA Section 404(f)(2) sets forth a two-part test, and both parts must be met to "recapture" an activity (*i.e.*, to bring the activity within the scope of regulation under CWA Section 404, such that a permit would be required).

Part 1: Is the discharge incidental to a proposed activity where the purpose of the activity is to convert an area of the waters of the United States into a use to which it was not previously subject? This is also known as the "change in use" test. The following clarifications may assist in making this determination:

- Construction of an irrigation ditch that cuts through (or across) a jurisdictional waterbody, including wetlands, may be a change in use of the waterbody because the footprint of the ditch and any structure(s) within the jurisdictional water(s) may convert that portion of the waterbody from a non-irrigation use to an irrigation use.
- Conversion of a jurisdictional wetland to a non-wetland is a change in use. However, the development of wetland characteristics in a ditch does not establish a new use for the ditch. The recapture provision would not apply to the maintenance activities of ditches which have developed wetland characteristics even if sediment and vegetation removal occurs to eliminate obstructions to flow.[3]
- Construction of dikes, drainage ditches, or other works or structures used to effect conversion of a wetland from silvicultural to agricultural use (such as by draining the wetland) is a change in use (33 CFR 323.4(c) and 40 CFR 232.3(b)).
- The fill of the former area of existing jurisdictional ditches or tributaries associated with relocation of such waters or converting existing jurisdictional ditches into pipes, is a change in use (*i.e.*, from jurisdictional waters to dry land or to non-jurisdictional waters).

Part 2: If Part 1 of the test is met, will the proposed activity impair the flow or circulation of waters of the United States or reduce the reach of such waters? This determination should be made on a case-by-case basis,[4] and the following clarifications may assist in making this determination:

- The agencies' regulations implementing CWA Section 404(f) (*i.e.*, 33 CFR 323.4(c) and 40 CFR 232.3(b)) specify that "(w)here the proposed discharge will result in significant discernible alterations to flow or circulation, the presumption is that flow or circulation may be impaired by such alteration." The project proponent should provide information to the agencies regarding why this presumption is not met if they request an exemption determination by the agencies.
- A discharge which elevates the bottom of waters of the United States without converting it to dry land does not thereby reduce the reach of, but may alter the flow or circulation of, waters of the United States (33 CFR 323.4(c) and 40 CFR 232.3(b)). An example of this could be "thin-spreading" dredged material into jurisdictional wetlands. Case-specific information should be considered to determine if such alterations to flow or circulation would rise to the level of impairment.

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[3] In certain circumstances, the accumulation of sediment over time may be so extensive that the ditch is no longer capable of being used to convey water, or the intended purpose of the ditch as a drainage resource has been abandoned. The removal of sediment and vegetation in such cases may be considered construction instead of maintenance, depending on the factual circumstances, and may require a permit, assuming the feature is, or the activity at issue is performed in, an otherwise jurisdictional water. When accumulation of sediment or debris occurs in response to a flood, storm, hurricane or similar event or series of events, the maintenance designed to restore such ditches to their original capacity should fall within the scope of the CWA Section 404(f) permit exemption. The maintenance activities performed to restore the ditch, however, must not expand the ditch beyond the contours of the ditch that existed before the event or events occurred.

[4] Because the CWA Section 404(f)(1) exemption for maintenance of irrigation or drainage ditches applies only to maintenance activities that would maintain existing capacity and functionality (not to construction activities), it is unlikely that the recapture provision in CWA Section 404(f)(2) would apply to ditch maintenance activities as defined above.

- A proposed activity for the purpose of construction or maintenance of a ditch that has the effect of substantially increasing or decreasing water levels in a nearby jurisdictional wetland or other jurisdictional water would be an alteration of the flow and circulation of said water(s), and should be analyzed to determine whether that alteration rises to the level of impairment.
- Construction of an irrigation ditch which converts a jurisdictional ditch into a pipe is a change in use of waters of the United States, and by definition also a reduction in their reach, within the meaning of CWA Section 404(f)(2).
- Certain construction or maintenance activities in a ditch have the potential to sever the hydrologic connection of waters of the United States and/or to sever adjacency between a jurisdictional wetland and another water of the United States. Ditch maintenance or construction activities having such an effect would reduce the reach of waters of the United States, and therefore may meet the second part of the recapture provision test. However, if a project proponent is able to demonstrate that hydrologic connectivity is maintained between the waters that would otherwise be severed, such as through the use of a culvert, flood or tide gate, pump, or similar artificial feature, or through the intentional breaches of levees or similar features, the reach of waters of the United States may not be reduced by the activity, although it may result in an impairment of flow or circulation.

V. CONCLUSION

When an activity has been determined in the first four steps of Section IV above to involve discharges of dredged or fill material into waters of the United States, the discharges are for the purpose of construction or maintenance of irrigation ditches or the maintenance (but not construction) of drainage ditches, and the elements of the recapture provision are not satisfied, then the activity is exempt from regulation under Section 404 of the CWA.

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R.D. JAMES
Assistant Secretary of the Army
(Civil Works)

DAVID ROSS
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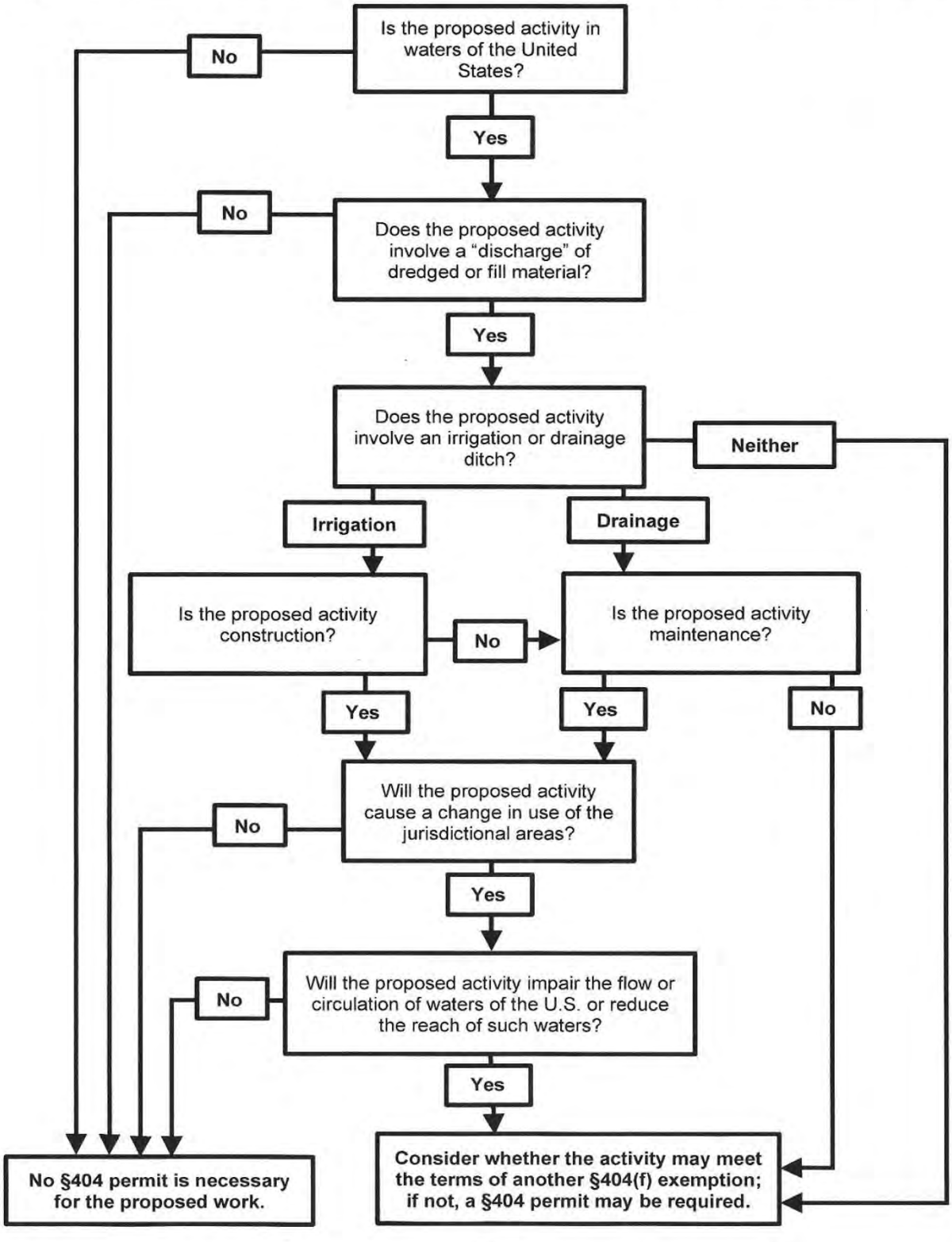
Date: 2020.07.24 16:39:41 -04'00'

DAVID P. ROSS
Assistant Administrator, Office of Water
Environmental Protection Agency

FLOW CHART ATTACHMENT TO THE JOINT MEMORANDUM TO THE FIELD BETWEEN ARMY AND EPA CONCERNING SECTION 404(f)(1)(C) OF THE CLEAN WATER ACT



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WETLANDS: NC Rules for Protecting Wetlands

15A NCAC 02B .0230 Activities Deemed to Comply with Wetlands Standards

"(a) The following activities for which Section 404 permits are not required pursuant to Section 404(f)(1) of the Clean Water Act and which are not recaptured into the permitting process pursuant to Section 404(f)(2) are deemed to be in compliance with wetland standards in 15A NCAC 02B .0231 provided that they comply with the most current versions of the federal regulations to implement Section 404 (f)(US Environmental Protection Agency and US Army Corps of Engineers including 40 C.F.R. 232.3) and the Sedimentation Pollution Control Act, G.S. 113A, Article 4:

(1) normal, on-going silviculture, farming, and ranching activities, such as plowing, seeding, cultivating, minor drainage, and harvesting for the production of food, fiber, and forest products, or upland soil and water conservation practices, provided that relevant silvicultural activities comply with U.S. Environmental Protection Agency and U.S. Army Corps of Engineers Memorandum to the Field entitled "Application of Best Management Practices to Mechanical Silvicultural Site Preparation Activities for the Establishment of Pine Plantations in the Southeast", November 28, 1995 which is available at no cost at https://www.epa.gov/cwa-404/memorandum-application-best-management-practices-mechanical-silvicultural-site-preparation and is hereby incorporated by reference including any subsequent amendments and editions;

(2) maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, and bridge abutments or approaches, and transportation structures, and other maintenance, repairs or modification to existing structures as required by the NC Dam Safety Program;

(3) construction and maintenance of farm or stock ponds or irrigation ditches. In addition, new pond construction in designated river basins with riparian buffer protection programs as set forth in this Subchapter shall comply with the applicable requirements of the riparian buffer protection rules as set forth in this Subchapter.

(4) maintenance of drainage ditches, provided that spoil is removed to high ground, placed on top of previous spoil, or placed parallel to one side or the other of the ditch within a distance of 20 feet and spoils are placed in a manner that minimizes damages to existing wetlands; and ditch maintenance is no greater than the original depth, length and width of the ditch;

(5) construction of temporary sediment control measures or best management practices as required by the NC Erosion and Sediment Control Program on a construction site, provided that the temporary sediment control measures or best management practices are restored to natural grade and stabilized within two months of completion of the project and native woody vegetation is reestablished during the next appropriate planting season and maintained; and,

(6) construction or maintenance of farm roads, forest roads, and temporary roads for moving mining equipment where such roads are constructed and maintained in accordance with best management practices, as defined in 40 C.F.R. 232.3 (c)(6)(i-xv), to assure that flow and circulation patterns and chemical and biological characteristics of the navigable waters are not impaired, that the reach of navigable waters is not reduced, and that any adverse effects on the aquatic environment will be otherwise minimized.

(b) Where the Director determines, in consultation with the US Army Corps of Engineers or the US Environmental Protection Agency, and considering existing or projected environmental impact, that an activity is not exempt from permitting under Section 404(f), or where the appropriate Best Management Practices are not implemented and maintained in accordance with Paragraph (a) of this Rule, the Director may require restoration of the wetlands as well as imposition of enforcement measures as authorized by G.S. 143-215.6A (civil penalties), G.S. 143-215.6B (criminal penalties) and G.S. 143-215.6C (injunctive relief)."

15A NCAC 02B .0231 Wetland Standards

"(a) Wetlands shall be assigned to one of the following classifications:

(1) Class WL: waters that meet the definition of wetlands as defined in Rule .0202 of this Section except those designated as SWL; or

(2) Class SWL: waters that meet the definition of coastal wetlands as defined by 15A NCAC 07H .0205, which are landward of the mean high water line, and wetlands contiguous to estuarine waters as defined by 15A NCAC 07H .0206.

In addition, the EMC may classify wetlands as unique wetlands (Class UWL) that are of exceptional State or national ecological significance which require special protection to maintain existing uses. Class UWL wetlands may include wetlands that have been documented as habitat essential for the conservation of State or federally listed threatened or endangered species.

(b) The water quality standards for all wetlands are designed to protect, preserve, restore, and enhance the quality and uses of wetlands and other waters of the State influenced by wetlands. The following are wetland uses:

(1) Storm and flood water storage and retention;

(2) Moderation of water level fluctuations;

(3) Hydrologic functions, including groundwater discharge that contributes to maintain dry weather streamflow and, at other locations or times, groundwater recharge that replenishes the groundwater system;

(4) Filtration or storage of sediments, nutrients, toxic substances, or other pollutants that would otherwise have an adverse impact, as defined in 15A NCAC 02H .1002, on the quality of other waters of the State;

(5) Shoreline protection against erosion through the dissipation of wave energy and water velocity and stabilization of sediments;

(6) Habitat for the propagation of resident wetland-dependent aquatic organisms, including fish, crustaceans, mollusks, insects, annelids, planktonic organisms, and the plants and animals upon which these aquatic organisms feed and depend upon for their needs in all life stages; and

(7) Habitat for the propagation of resident wetland-dependent wildlife species, including mammals, birds, reptiles, and amphibians for breeding, nesting, cover, travel corridors, and food.

(c) The following standards shall be used to assure the maintenance or enhancement of the existing uses of wetlands identified in Paragraph (b) of this Rule:

(1) Liquids, fill or other solids, or dissolved gases shall not be present in amounts that may cause adverse impacts on existing wetland uses;

(2) Floating or submerged debris, oil, deleterious substances, or other material shall not be present in amounts that may cause adverse impacts on existing wetland uses;

(3) Materials producing color or odor shall not be present in amounts that may cause adverse impacts on existing wetland uses;

(4) Materials that adversely affect the palatability of fish or aesthetic quality of the wetland shall not be present in amounts that may cause adverse impacts on existing wetland uses;

(5) Concentrations or combinations of substances that are toxic or harmful to human, animal, or plant life shall not be present in amounts which individually or cumulatively may cause adverse impacts on existing wetland uses;

(6) Hydrological conditions necessary to support the biological and physical characteristics naturally present in wetlands shall be protected to prevent detrimental impacts on:

(A) Water currents, erosion or sedimentation patterns;

(B) Natural water temperature variations;

(C) The chemical, nutrient, and dissolved oxygen regime of the wetland;

(D) The movement of aquatic fauna;

(E) The pH of the wetland; and

(F) Water levels or elevations.

(7) The populations of wetland flora and fauna shall be maintained to protect biological integrity as defined in Rule .0202 of this Section."

Section .1300 -- Permit for Discharges to Isolated Wetlands and Isolated Waters

[NOTE: Below is only a portion of the entire .1300 rules section. Review the full rules section and consult with the NCDEQ-Division of Water Resources if you think that you need to obtain permit coverage. Normal forestry activities described in the state rules are exempted from needing a permit, with highlighting added below.]

15A NCAC 02H .1301 Scope and Purpose

"(a) The provisions of this Section shall apply to Division of Water Quality (Division) regulatory and resource management determinations regarding isolated wetlands and isolated classified surface waters. This Section shall only apply to discharges resulting from activities that require state review after the effective date of this Rule and which require a Division determination concerning effects on isolated wetlands and isolated classified surface waters. For the purpose of this Section, discharge shall be the deposition of dredged or fill material including but not limited to fill, earth, construction debris and soil.

(b) This Section outlines the application and review procedures for permitting of discharges into isolated wetlands and isolated classified surface waters which have been listed in 15A NCAC 02B .0300. If the US Army Corps of Engineers or its designee determines that a particular water or wetland is isolated and not regulated under Section 404 of the Clean Water Act, then discharges to that water or wetland shall be covered by this Section (15A NCAC 02H .1301 - .1305).

(c) Activities which result in a discharge may be authorized by the issuance of either an Individual Permit or a Certificate of Coverage to operate under a General Permit. Individual Permits shall be issued on a case by case basis using the procedures outlined in this Section. These Individual Permits do not require approval by the U.S. Environmental Protection Agency. Certificates of Coverage for General Permits may be issued for types or groups of discharges resulting from activities that are similar in nature and considered to have minimal impact. General Permits include but are not limited to activities such as maintenance, utility lines, and road crossings. General Permits shall be given public notice at least 45 days before the proposed effective date of the General Permit. These General Permits do not require approval by the U.S. Environmental Protection Agency. Individual Permits and Certificates of Coverage for General Permits shall be issued for a period of five years after which time the Permit shall be void unless the discharge is complete or an extension is granted as described in 15A NCAC 02H .1304(e).

(d) Discharges resulting from activities which receive an Individual Permit or Certificate of Coverage under a General Permit pursuant to this Section shall not be considered to remove existing uses of the isolated wetland or isolated surface waters.

(e) The following are exempt from this Section:
- (1) Activities that are described in 15A NCAC 02B .0230;
- (2) Discharges to isolated, man-made ponds or isolated ditches except for those wetlands or waters constructed for compensatory mitigation or for on-site stormwater management;
- (3) Discharges of treated effluent into isolated wetlands and isolated classified surface waters resulting from activities which receive NPDES Permits or State Non-Discharge Permits;
- (4) Discharges for water dependent structures as defined in 15A NCAC 02B .0202(67);
- (5) A discharge resulting from an activity if:
  - (A) The discharge resulting from the activity requires a 401 Certification and 404 Permit and these were issued prior to the effective date of this Rule;
  - (B) The project requires a state permit, such as landfills, NPDES discharges of treated effluent, Non-Discharge Permits, land application of residuals and road construction activities, that has begun construction or are under contract to begin construction and have received all required state permits prior to the effective date of this Rule;

(C) The project is being conducted by the N.C. Department of Transportation and they have completed 30% of the hydraulic design for the project prior to the effective date of this Rule; or

(D) The applicant has been authorized for a discharge into isolated wetlands or isolated waters for a project which has established a Vested Right under North Carolina law prior to the effective date of this Rule."

15A NCAC 02H .1305 Review of Applications

"(b) Discharges from Activities Deemed to be Permitted: Discharges resulting from activities in isolated wetlands or waters that are below the thresholds described in Subparagraphs (c)(2) and (d)(2) of this Rule, are deemed to be permitted as long as they fully comply with conditions listed below and may proceed without review procedures outlined in Subparagraphs (c)(1) through (c)(6) and (d)(1) through (d)(6) of this Rule. However, the Director may require that any discharge resulting from an activity obtain an Individual Permit or Certificate of Coverage under a General Permit if the Director determines that the discharge would result in a violation of water quality or wetland standards listed in 15A NCAC 02B .0200. This determination shall be made based on existing or projected environmental impacts. Conditions which must be met for projects deemed to be permitted:

(1) Erosion and sediment control practices shall equal or exceed those required by the N.C. Division of Energy, Mineral, and Land Resources or its local delegated program for the Sedimentation Pollution Control Act and shall be in full compliance with all specifications governing the proper design, installation, operation and maintenance of such Best Management Practices in order to help assure compliance with the appropriate turbidity and other water quality standards;

(2) All erosion and sediment control practices placed in isolated wetlands or isolated classified surface waters must be removed and the original grade restored within two months after the Division of Energy, Mineral, and Land Resources or local delegated program determines that the land disturbance project is completed and the file is closed out;

(3) Live or fresh concrete shall not come into contact with surface water until the concrete has hardened; and

(4) Measures shall be taken to ensure that the hydrology of any remaining isolated wetland or isolated classified surface waters is not affected by the discharge."

WETLANDS: NC CAMA -- Coastal Area Management Act

[NOTE: Below are excerpts related to forestry; this is not the complete set of laws or rules].

G.S. 113A-103 Definitions.

"(5) b. The following activities including the normal and incidental operations associated therewith shall not be deemed to be development under this section:

...

4. The use of any land for the purposes of planting, growing, or harvesting plants, crops, trees, or other agricultural or forestry products, including normal private road construction, raising livestock or poultry, or for other agricultural purposes except where excavation or filling affecting estuarine waters (as defined in G.S. 113-229) or navigable waters is involved;"

15A NCAC 07K .0206 Small Ditches Exempted

"(a) Small ditches used for agricultural or forestry purposes with maximum dimensions equal to or less than six feet (top width) by four feet deep are exempted from the CAMA permit requirement.
(b) All ditches with maximum dimensions greater than six feet by four feet will require application for a letter of authorization from the [Coastal Resources] Commission. If the Commission determines that the ditch will affect estuarine or navigable waters, a major development permit will be required.
(c) Width and depth dimensions of all ditches will be measured at the ground level."

WETLANDS: N.C. Dredge and Fill Law

[NOTE: Below are excerpts related to forestry; this is not the complete set of laws].

G.S. 113-229 Permits to dredge or fill in or about estuarine waters or State-owned lakes.

"(a) Except as hereinafter provided before any excavation or filling project is begun in any estuarine waters, tidelands, marshlands, or State-owned lakes, the party or parties desiring to do such shall first obtain a permit from the Department [of Environmental Quality]. Granting of the State permit shall not relieve any party from the necessity of obtaining a permit from the United States Army Corps of Engineers for work in navigable waters, if the same is required. The Department shall continue to coordinate projects pertaining to navigation with the United States Army Corps of Engineers."

...

"(m) This section shall apply to all persons, firms, or corporations, their employees, agents, or contractors proposing excavation or filling work in the estuarine waters, tidelands, marshlands and State-owned lakes within the State, and the work to be performed by the State government or local governments. Provided, however, the provisions of this section shall not apply to the activities and functions of the Department and local health departments that are engaged in mosquito control for the protection of the health and welfare of the people of the coastal area of North Carolina as provided under G.S. 130A-346 through G.S. 130A-349. Provided, further, this section shall not impair the riparian right of ingress and egress to navigable waters.

(n) Within the meaning of this section:
(1) "State-owned lakes" include man-made as well as natural lakes.
(2) "Estuarine waters" means all the waters of the Atlantic Ocean within the boundary of North Carolina and all the waters of the bays, sounds, rivers, and tributaries thereto seaward of the dividing line between coastal fishing waters and inland fishing waters agreed upon by the Department and the Wildlife Resources Commission, within the meaning of G.S. 113-129.
(3) "Marshland" means any salt marsh or other marsh subject to regular or occasional flooding by tides, including wind tides (whether or not the tidewaters reach the marshland areas through natural or artificial watercourses), provided this shall not include hurricane or tropical storm tides. Salt marshland or other marsh shall be those areas upon which grow some, but not necessarily all, of the following salt marsh and marsh plant species: Smooth or salt water Cordgrass (*Spartina alterniflora*), Black Needlerush (*Juncus roemerianus*), Glasswort (*Salicornia* spp.), Salt Grass (*Distichlis spicata*), Sea Lavender (*Limonium* spp.), Bulrush (*Scirpus* spp.), Saw Grass (*Cladium jamaicense*), Cattail (*Typha* spp.), Salt-Meadow Grass (*Spartina patens*), and Salt Reed-Grass (*Spartina cynosuroides*)."

Guidance for Cutting Trees off Dams

[NOTE: This guidance was developed after consultation with staff and supervisors in DEQ-DEMLR in 2016, and was previously provided to NCFS employees. This is for information purposes only and is not legal or engineering advice.]

Step 1 -- Is the impoundment structure legally defined as a "dam"?

By North Carolina state law, the dam is a regulated structure if:

- it is taller than 25 feet, and;
- has a holding capacity greater than 50 acre-feet of water;

or, if any dam is defined as a "High Hazard" structure.

To be classified as a High Hazard structure means that if that dam fails or is breached, and any of the following three things may happen, then it is "High Hazard":

1) loss of human life downstream; or
2) economic damage more than $200,000 downstream; or
3) the spilled water will cross a roadway that carries 250 or more vehicles per day.

State law exempts an agricultural pond dam, if that dam/pond was constructed under the authority of NRCS or Soil & Water Conservation Division/District. **But, there is no exemption from a "High Hazard" designation**.
If that dam meets any of the 3 thresholds listed above, then it is "High Hazard" and it is a regulated structure.

- For example: This can happen when a new housing subdivision is built downstream, below an old farm pond that was already there for decades. Now that those homes are built, and are in the floodway with potential for loss-of-life, that old ag pond dam now becomes a "High Hazard" structure.

Step 2 -- If the impoundment is considered a "dam", can you cut trees off it?

Trees that are 6-inches diameter or smaller can be / should be cut.

- Do not remove the stump or rootwad. No permit or engineering plan is required.

Trees that are larger than 6-inches diameter can be / should be cut.

- **However, an approved engineering plan is first required**, because the stump and rootwad must be excavated, removed; and the void hole backfilled with appropriate material to reinforce the dam. An engineer from DEQ-DEMLR would need to review and approve the plan.

NOTE: This 6-inch diameter limit is a general rule-of-thumb or a generally-accepted recommendation or guidance. It is not codified in rule or law. The 6" diameter limit is generally believed to mean 6" DBH, but there is no confirmation from DEQ/DEMLR staff, nor their federal agency or university specialists who developed the reference publications listed below.

For more information, speak with an engineer in the DEQ-DEMLR Regional Office; and/or reference the information linked below.

Dam References

"Pocket Safety Guide for Dams and Impoundments". (*10MB, PDF: downloads slowly*).
USDA-Forest Service Publication Number 1273-2805P-MTDC. FEMA Publication Number P-911.
http://www.fs.fed.us/t-d/pubs/pdfpubs/pdf12732805/pdf12732805dpi72.pdf

A self-guided online PowerPoint training module for this Pocket Guide:
http://www.fs.fed.us/eng/dams/olt/index.html#!01-home

Online slides from this Pocket Guide showing why having trees on a dam can cause problems:
http://www.fs.fed.us/eng/dams/olt/index.html#!30b-problems

"Technical Manual for Dam Owners: Impacts of Plants on Earthen Dams".
FEMA Publication Number 534. (3MB, PDF: 115 pages).
http://www.fema.gov/media-library-data/20130726-1446-20490-2338/fema-534.pdf

NCDEQ-DEMLR, Dam Safety Section:
http://deq.nc.gov/about/divisions/energy-mineral-land-resources/energy-mineral-land-permits/dam-safety

N.C. Law and Administrative Code Rules (available from the DEMLR website above, in "Rules"):
Dam Safety Law: G.S. 143-215.23 to 215.37.
Dam Safety Rules: 15A NCAC 02K.