North Carolina Forestry BMP Manual Appendix 1: (updated)
Citation of Laws, Regulations, and other Requirements

This is an updated version of Appendix 1 created for the 2015 re-printing of the N.C. Forestry BMP Manual. Certain rules that were cited in previous printings of the BMP Manual are not included, while new rules that were enacted since the original printing are included here in this updated Appendix 1.

NOTE: AT THE TIME OF THIS 2015 REPRINTING, MANY STATE RULES WERE BEING REVIEWED FOR POSSIBLE CHANGES. PLEASE REFER TO THE RULES ON THE NC OAH WEBSITE FOR THAT RULE'S STATUS IF IN QUESTION.

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Note: Most of the contents of Appendix 1 are direct quotes from laws, regulations, guidance documents, or information papers. All direct quotes are shown in standard type. <u>Text that is not part of a direct quote citation is underlined in this Appendix 1.</u>

1.1- Designated Agency and Selected N.C. Water Quality Standards

1.1.1 - Designated Agency

15A NCAC 02B .0104 (v): Silviculture activities are subject to the provisions of the Forest Practices Guidelines Related to Water Quality (15A NCAC 1I .0101-.0209)[sic]. The Division of Forest Resources [sic] is the designated management agency responsible for implementing the provisions of the rules in 15A NCAC 2B .0200 pertaining to silviculture activities.

1.1.2 - N.C. Temperature and Turbidity Standard for Class C Waters

Included below are excerpts of the NC rules that describe the water temperature and turbidity water quality standards that apply in Class C waters, which are the minimum standards that apply to all fresh surface waters in North Carolina.

15A NCAC 02B .0211 (3)(j): 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).

15A NCAC 02B .0211 (3)(k): 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 can be met when land management activities employ Best Management Practices (BMPs) recommended by the Designated Nonpoint Source Agency. BMPs must be in full compliance with all specifications governing the proper design, installation, operation and maintenance of such BMPs.

1.2 - Sedimentation Pollution Control Act (SPCA) Excerpts

Included below are excerpts from NCGS 113A, 50-52 Sedimentation Pollution Control Act of 1973 that relate to the forestry exemption to the SPCA and the establishment of the FPGs.

Article 4. Sedimentation Pollution Control Act of 1973.

§ 113A-50. Short title.
This Article shall be known as and may be cited as the "Sedimentation Pollution Control Act of 1973." (1973, c. 392, s. 1.)

§ 113A-51. Preamble.
The sedimentation of streams, lakes and other waters of this State constitutes a major pollution problem. Sedimentation occurs from the erosion or depositing of soil and other materials into the waters, principally from construction sites and road maintenance. The continued development of this State will result in an intensification of pollution through sedimentation unless timely and appropriate action is taken. Control of erosion and sedimentation is deemed vital to the public interest and necessary to the public health and welfare, and expenditures of funds for erosion and sedimentation control programs shall be deemed for a public purpose. It is the purpose of this Article to provide for the creation, administration, and enforcement of a program and for the adoption of minimal mandatory standards which will permit development of this State to continue with the least detrimental effects from pollution by sedimentation. In recognition of the desirability of early coordination of sedimentation control planning, it is the intention of the General Assembly that preconstruction conferences be held among the affected parties, subject to the availability of staff. (1973, c. 392, s. 2; 1975, c. 647, s. 3.)

§ 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 Environment and Natural Resources.
(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 Environment and Natural Resources.

(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.

(1973, c. 392, s. 3; c. 1417, s. 1; 1975, c. 647, s. 1; 1977, c. 771, s. 4; 1989, c. 179, s. 1; c. 727, s. 218(60); 1989 (Reg. Sess., 1990), c. 1004, s. 19(b); 1991, c. 275, s. 1; 1993 (Reg. Sess., 1994), c. 776, s. 1; 1997-443, s. 11A.119(a).)

§ 113A-52.01. Applicability of this Article.

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

(1) Activities, including the breeding and grazing of livestock, 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.

(2) Activities undertaken on forestland for the production and harvesting of timber and timber products and conducted in accordance with best management practices set out in Forest Practice Guidelines Related to Water Quality, as adopted by the Department.

(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.

(1993 (Reg. Sess., 1994), c. 776, s. 2; 1997-84, s. 1.)

§ 113A-52.1. Forest Practice Guidelines.

(a) The Department 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 Secretary shall establish a Technical Advisory Committee to assist in the development and periodic review of Forest Practice Guidelines Related to Water Quality. The 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 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. (1989, c. 179, s. 2.)

1.3 - N.C. Forest Practices Guidelines Related to Water Quality (FPGs)

02 NCAC 60C .0100 - .0209 Forest Practices Guidelines Related to Water Quality

SECTION .0100 - GENERAL PROVISIONS

02 NCAC 60C .0101 INTRODUCTION AND PURPOSE

(a) Forests are a major contributor to the economy and quality of the environment in North Carolina. Forestry best management practices allow for the production, harvesting, and utilization of forest resources while maintaining satisfactory water quality. The rules in this Subchapter establish performance standards for the protection of water quality. The intent and purpose of these rules is not to cease or obstruct the lawful, proper and responsible use of forest resources. Persons must adhere to the standards related to land disturbing activities in order to retain the forestry exemption provided in the N.C. Sedimentation Pollution Control Act of 1973 as amended in 1989.

(b) The Division of Forest Resources is responsible for the protection and development of forest resources in North Carolina, and has been designated by the Secretary of North Carolina Department of Environment, Health, and Natural Resources as the Division within the Department best able to assist the Secretary in the implementation of these rules.

(c) The Forestry Best Management Practices Manual, published by the Division of Forest Resources in September, 1989, and as amended from time to time, contains specifications for a variety of practices which may be used to meet the performance standards set forth in this Subchapter. Best Management Practices (BMPs) shall be selected to allow for the variation in weather, topography, soil, and vegetation expected for the site and season. Implementation of these rules shall recognize that extreme and unusual weather can cause reasonable and otherwise adequate application of BMPs to fail to control sedimentation. Where installed BMPs fail, additional and more effective BMPs may be required. This manual and the rules in this Subchapter may be obtained by contacting the Director, Division of Forest Resources, Raleigh, North Carolina.

History Note: Authority G.S. 113-3; 113-8; 113A-52(6); 113A-52.1; 143B-10; Eff. January 1, 1990.
Transferred from 15A NCAC 01I .0101 Eff. April 1, 2014

02 NCAC 60C .0102 DEFINITIONS

In addition to the terms defined in G.S. 113-44.4 and 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.

(3) "Adverse Impact" as used for pesticides and fertilizers means actions which result in a violation of adopted water quality standards of the Environmental Management Commission Sections 15A NCAC 2B .0200 - Classifications and Water Quality Standards Applicable to Surface Waters of North Carolina, 15A NCAC 2L .0200 - Classifications and Water Quality Standards (related to groundwater) and the N.C. Pesticide Board Rule 2 NCAC 9L .1005 - Restricted Areas.

(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.

(5) "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.

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

(7) "Ford" means a submerged stream crossing which will bear intended traffic.

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

(9) "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.

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

(11) "Log Deck" means a place where logs are gathered in or near the forest for further transport, sometimes called a "landing".

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

(13) "Permanently Stabilized" means the site is protected to the state at which no further accelerated erosion is expected to occur from the forestry activities.

(14) "Pesticides" means a chemical used to kill pests. The term includes insecticides, fungicides, herbicides, and rodenticides.
(15) "Site Preparation" means a forest activity to prepare the site for reforestation.
(16) "Skid Trail" means a temporary pathway principally used to drag or transport felled trees or logs or other material to a landing.
(17) "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.
(18) "Streamside Management Zone (SMZ)" means an area along both sides of intermittent and perennial streams and perennial waterbodies where extra precaution is used in carrying out forest practices in order to protect water quality.
(19) "Visible Sediment" means solid particulate matter, both mineral and organic, which can 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 normally include colloidal sized particles.
(20) "Waterbody" means a natural or man-made basin that stores water, not including jurisdictional wetlands or beaver ponds.
(18) "Working Days" means days exclusive of Saturdays and Sundays during which weather conditions or soil conditions permit land-disturbing activity to be undertaken.

History Note: Authority G.S. 113-44.4; 113A-52; 113A-52.1; Eff. Jan. 1, 1990. Transferred from 15A NCAC 01I .0102 Eff. April 1, 2014

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 and perennial streams and perennial waterbodies. The SMZ shall be of sufficient width to confine within the SMZ visible sediment resulting from accelerated erosion.
(b) Ground cover, or other means, within the SMZ shall be sufficient to 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 they shall have effective erosion control and sediment control structures or measures installed to restrain accelerated erosion and prevent visible sediment from entering intermittent or perennial streams or perennial waterbodies.

History Note: Authority G.S. 113A-52.1; Eff. January 1, 1990. Transferred from 15A NCAC 01I .0201 Eff. April 1, 2014

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

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.

History Note: Authority G.S. 77-13; 77-14; 113A-52.1; Eff. January 1, 1990. Transferred from 15A NCAC 01I .0202 Eff. April 1, 2014

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

Stream crossings shall be avoided when possible. Access roads and skid trails which must cross intermittent or perennial streams or perennial waterbodies shall be constructed so as to minimize the amount of sediment that enters the streams because of the construction. These crossings shall be installed so that:
(1) stream flow will not be obstructed or impeded;
(2) no 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 banks and channel from accelerated erosion;
(4) they 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 and perennial streams; and
(5) ground cover, or other means, sufficient to prevent visible sediment from entering intermittent and 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.

History Note: Authority G.S. 113A-52.1; Eff. January 1, 1990. Transferred from 15A NCAC 01I .0203 Eff. April 1, 2014

02 NCAC 60C .0204 ACCESS ROAD ENTRANCES
Access road entrances intersecting public highways shall be constructed and maintained with measures, devices or techniques effective to prevent excessive soil and other debris from being carried to and deposited on the highway to the extent that sedimentation problems will result.
History Note: Authority G.S. 113A-52.1; Eff. January 1, 1990. Transferred from 15A NCAC 01I .0204 Eff. April 1, 2014

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 which result in a violation of an adopted water quality standard of the Environmental Management Commission in Sections 15A NCAC 2B .0200 - Classifications and Water Quality Standards Applicable to Surface Waters of North Carolina, and 15A NCAC 2L .0200 - Classifications and Water Quality Standards (related to groundwater).
History Note: Authority G.S. 113A-52.1; 143-214.1; Eff. January 1, 1990. Transferred from 15A NCAC 01I .0205 Eff. April 1, 2014

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 2 NCAC 9L .1005, Restricted Areas, and applied in a manner to prevent adverse impacts on water quality.
History Note: Authority G.S. 113A 52.1; 143 214.1; Eff. January 1, 1990. Transferred from 15A NCAC 01I .0206 Eff. April 1, 2014

02 NCAC 60C .0207 FERTILIZER APPLICATION
When used, fertilizers shall be applied in a manner to prevent adverse impacts on water quality.
History Note: Authority G.S. 113A 52.1; 143 214.1; Eff. January 1, 1990. Transferred from 15A NCAC 01I .0207 Eff. April 1, 2014

02 NCAC 60C .0208 STREAM TEMPERATURE
Adequate shade within SMZs associated with natural perennial streams shall be retained to protect those streams from adverse temperature fluctuations which result in a violation of an adopted water quality standard of the Environmental Management Commission as contained in Rule 15A NCAC 2B .0211 - Fresh Surface Water Classifications and Standards.
History Note: Authority G.S. 113A 52.1; 143 214.1; Eff. January 1, 1990. Transferred from 15A NCAC 01I .0208 Eff. April 1, 2014

02 NCAC 60C .0209 REHABILITATION OF PROJECT SITE
Areas on the project site that have the potential for accelerated erosion, resulting in concentrated flow directly entering an intermittent or perennial stream or perennial waterbody, shall be provided with ground cover or other means of adequate sedimentation control within 30 working days after ceasing any phase of an operation or beginning a period of inactivity. Treatment and maintenance of those areas shall be sufficient to restrain accelerated erosion and prevent visible sediment from entering intermittent and perennial streams and perennial waterbodies until the site is permanently stabilized.
History Note: Authority G.S. 113A-52.1; Eff. January 1, 1990. Transferred from 15A NCAC 01I .0209 Eff. April 1, 2014

1.4 - Riparian Buffers on Streams Classified as Trout Waters

The "trout buffer rule" is contained in the rules for the NC Erosion and Sediment Control Program.

15A NCAC 04B .0125 BUFFER ZONE REQUIREMENTS

(a) Unless otherwise provided, the width of a buffer zone is measured from the edge of the water to the nearest edge of the disturbed area, with the 25 percent of the strip nearer the land-disturbing activity containing natural or artificial means of confining visible siltation.

(b) The 25 foot minimum width for an undisturbed buffer zone adjacent to designated trout waters shall be measured horizontally from the top of the bank.

(c) Where a temporary and minimal disturbance is permitted as an exception by G.S. 113A-57(1), land-disturbing activities in the buffer zone adjacent to designated trout waters shall be limited to a maximum of ten percent of the total length of the buffer zone within the tract to be distributed such that there is not more than 100 linear feet of disturbance in each 1000 linear feet of buffer zone. Larger areas may be disturbed with the written approval of the Director.

(d) No land-disturbing activity shall be undertaken within a buffer zone adjacent to designated trout waters that will cause adverse temperature fluctuations, as set forth in 15A NCAC 2B .0211 "Fresh Surface Water Classification and Standards", in these waters.

History Note: Authority G.S. 113A-54(b); 113A-54(c)(1); 113A-57(1); Eff. May 1, 1990; Amended Eff. February 1, 1992.

1.5 - Neuse and Tar-Pamlico River Basin Riparian Buffer Rules

The Neuse River Basin riparian buffer rules are included below. The Tar-Pamlico River Basin riparian buffer rules are identical to the Neuse buffer rules. The Tar-Pamlico Buffer Rule code is 15A NCAC 02B.0259.

15A NCAC 02B .0233 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 protect and preserve existing riparian buffers in the Neuse River Basin to maintain their nutrient removal functions.

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

(a) '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. (current definition in Forest Practice Guidelines Related to Water Quality, 15A NCAC 1I .0102)

(b) 'DBH' means Diameter at Breast Height of a tree, which is measured at 4.5 feet above ground surface level.

(c) 'Ditch or canal' means a man-made channel other than a modified natural stream constructed for drainage purposes that is typically dug through inter-stream divide areas. A ditch or canal may have flows that are perennial, intermittent, or ephemeral and may exhibit hydrological and biological characteristics similar to perennial or intermittent streams.

(d) 'Ephemeral (stormwater) stream' means a feature that carries only stormwater in direct response to precipitation with water flowing only during and shortly after large precipitation events. An ephemeral stream may or may not have a well-defined channel, the aquatic bed is always above the 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.

(e) '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.

(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; and, for hardwoods and wetland species, 16-inch DBH or greater or 24-inch or greater stump diameter.

(g) '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 water table. The flow may be heavily supplemented by stormwater runoff. An intermittent stream often lacks the biological and hydrological characteristics commonly associated with the conveyance of water.

(h) '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 the continuous conveyance of water.

(i) '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 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.

(j) 'Perennial waterbody' means a natural or man-made basin that stores surface water permanently at depths sufficient to preclude growth of rooted plants, including lakes, ponds, sounds, non-stream estuaries and ocean. For the purpose of the State=s riparian buffer protection program, the waterbody must be part of a natural drainageway (i.e., connected by surface flow to a stream).

(k) 'Stream' means a body of concentrated flowing water in a natural low area or natural channel on the land surface.

(l) 'Surface water' means all waters of the state as defined in G.S. 143-212 except underground waters.

(m) 'Tree' means a woody plant with a DBH equal to or exceeding five inches.

(3) APPLICABILITY. This Rule shall apply to 50-foot wide riparian buffers directly adjacent to surface waters in the Neuse River Basin (intermittent streams, perennial streams, lakes, ponds, and estuaries), excluding wetlands. Except as described in Sub-Item (4)(a)(iii) of this Rule, 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 2H .0506. The riparian buffers protected by this Rule shall be measured pursuant to Item (4) of this Rule. For the purpose of this Rule, a surface water shall be present if the feature is approximately shown on either the most recent version of the soil survey map prepared by the Natural Resources Conservation Service of the United States Department of Agriculture or the most recent version of the 1:24,000 scale (7.5 minute) quadrangle topographic maps prepared by the United States Geologic Survey (USGS). Riparian buffers adjacent to surface waters that do not appear on either of the maps shall not be subject to this Rule. Riparian buffers adjacent to surface waters that appear on the maps shall be subject to this Rule unless one of the following applies.

(a) EXEMPTION WHEN AN ON-SITE DETERMINATION SHOWS THAT SURFACE WATERS ARE NOT PRESENT. When a landowner or other affected party believes that the maps have inaccurately depicted surface waters, he or she shall consult the Division or the appropriate delegated local authority. Upon request, the Division or delegated local authority shall make on-site determinations. 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 an on-site determination shows that they fall into one of the following categories.

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

(ii) Manmade ponds and lakes that are located outside natural drainage ways.

(iii) Ephemeral (stormwater) streams.

(b) EXEMPTION WHEN EXISTING USES ARE PRESENT AND ONGOING. This Rule shall not apply to portions of the riparian buffer where a use is existing and ongoing according to the following:

(i) A use shall be considered existing if it was present within the riparian buffer as of July 22, 1997. Existing uses shall include, but not be limited to, agriculture, buildings, industrial facilities, commercial areas, transportation facilities, maintained lawns, utility lines and on-site sanitary sewage systems. Only the portion of the riparian buffer that contains the footprint of the existing use is exempt from this Rule. Activities necessary to maintain uses are allowed provided that no additional vegetation is removed from Zone 1 except that grazed or trampled by livestock and existing diffuse flow is maintained. Grading and revegetating Zone 2 is allowed provided that the health of the vegetation in Zone 1 is not compromised, the ground is stabilized and existing diffuse flow is maintained.

(ii) At the time an existing use is proposed to be converted to another use, this Rule shall apply. An existing use shall be considered to be converted to another use if any of the following applies:

(A) Impervious surface is added to the riparian buffer in locations where it did not exist previously.

(B) An agricultural operation within the riparian buffer is converted to a non-agricultural use.

(C) A lawn within the riparian buffer ceases to be maintained.

(4) 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 Item (6) 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 surface water, measured horizontally on a line perpendicular to the surface water.

(ii) For ponds, lakes and reservoirs located within a natural drainage way, Zone 1 shall begin at the most landward limit of the normal water level or the rooted herbaceous vegetation 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 15A NCAC 2B .0202) within the jurisdiction of the Division of Coastal Management, Zone 1 shall begin at the most landward limit of:

(A) the normal high water level;

(B) the normal water level; or

(C) the landward limit of coastal wetlands as defined by the Division of Coastal Management;

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 Item (6) 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.

(5) DIFFUSE FLOW REQUIREMENT. Diffuse flow of runoff shall be maintained in the riparian buffer by dispersing concentrated flow and reestablishing vegetation.

(a) Concentrated runoff from new ditches or manmade conveyances shall be converted to diffuse flow before the runoff enters the Zone 2 of the riparian buffer.

(b) Periodic corrective action to restore diffuse flow shall be taken if necessary to impede the formation of erosion gullies.

(6) TABLE OF USES. The following chart sets out the uses and their designation under this Rule as exempt, allowable, allowable with mitigation, or prohibited. The requirements for each category are given in Item (7) of this Rule.

	Exempt	Allowable	Allowable with Mitigation	Prohibited
Airport facilities:				
X Airport facilities that impact equal to or less than 150 linear feet or one-third of an acre of riparian buffer		X		
X Airport facilities that impact greater than 150 linear feet or one-third of an acre of riparian buffer			X	
Archaeological activities	X			
Bridges		X		
Dam maintenance activities	X			
Drainage ditches, roadside ditches and stormwater outfalls through riparian buffers:				
X Existing drainage ditches, roadside ditches, and stormwater outfalls provided that they are managed to minimize the sediment, nutrients and other pollution that convey to waterbodies	X			
X New drainage ditches, roadside ditches and stormwater outfalls provided that a stormwater management facility is installed to control nitrogen and attenuate flow before the conveyance discharges through the riparian buffer		X		
X New drainage ditches, roadside ditches and stormwater outfalls that do not provide control for nitrogen before discharging through the riparian buffer				X
X Excavation of the streambed in order to bring it to the same elevation as the invert of a ditch				X
Drainage of a pond in a natural drainage way provided that a new riparian buffer that meets the requirements of Items (4) and (5) of this Rule is established adjacent to the new channel	X			
Driveway crossings of streams and other surface waters subject to this Rule:				
X 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	X			
X Driveway crossings on single family residential lots that disturb greater than 25 linear feet or 2,500 square feet of riparian buffer		X		
X In a subdivision that cumulatively disturb equal to or less than 150 linear feet or one-third of an acre of riparian buffer		X		
X In a subdivision that cumulatively disturb greater than 150 linear feet or one-third of an acre of riparian buffer			X	

Fences provided that disturbance is minimized and installation does not result in removal of forest vegetation	X			
Forest harvesting - see Item (11) of this Rule				
Fertilizer application: X One-time fertilizer application to establish replanted vegetation X Ongoing fertilizer application	X			X
Grading and revegetation in Zone 2 only provided that diffuse flow and the health of existing vegetation in Zone 1 is not compromised and disturbed areas are stabilized	X			
Greenway/hiking trails		X		
Historic preservation	X			
Landfills as defined by G.S. 130A-290				X
Mining activities: X Mining activities that are covered by the Mining Act provided that new riparian buffers that meet the requirements of Items (4) and (5) of this Rule are established adjacent to the relocated channels X Mining activities that are not covered by the Mining Act OR where new riparian buffers that meet the requirements or Items (4) and (5) of this Rule are not established adjacent to the relocated channels X Wastewater or mining dewatering wells with approved NPDES permit	X	X	X	
Non-electric utility lines: X Impacts other than perpendicular crossings in Zone 2 only[3] X Impacts other than perpendicular crossings in Zone 1[3]		X	X	
Non-electric utility line perpendicular crossing of streams and other surface waters subject to this Rule[3]: X Perpendicular crossings that 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 Perpendicular crossings that disturb greater than 40 linear feet of riparian buffer with a maintenance corridor greater than 10 feet in width X Perpendicular crossings that 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 Perpendicular crossings that 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 Perpendicular crossings that disturb greater than 150 linear feet of riparian buffer	X	X X	X X	
On-site sanitary sewage systems - new ones that use ground absorption				X
Overhead electric utility lines: X Impacts other than perpendicular crossings in Zone 2 only[3] X Impacts other than perpendicular crossings in Zone 1 [1,2,3]	X X			
Overhead electric utility line perpendicular crossings of streams and other surface waters subject to this Rule[3] X Perpendicular crossings that disturb equal to or less than 150 linear feet of riparian buffer [1]	X			

X Perpendicular crossings that disturb greater than 150 linear feet of riparian buffer [1, 2]		X		
Periodic maintenance of modified natural streams such as canals and a grassed travelway on one side of the surface water when alternative forms of maintenance access are not practical		X		

[1] Provided that, in Zone 1, 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 alternatives evaluation by the Division.

- 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.
- Rip rap 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.

[2] Provided that poles or towers shall not be installed within 10 feet of a water body unless the Division completes a no practical alternatives evaluation.

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

	Exempt	Allowable	Allowable with Mitigation	Prohibited
Playground equipment: X Playground equipment on single family lots provided that installation and use does not result in removal of vegetation X Playground equipment installed on lands other than single-family lots or that requires removal of vegetation	X	X		
Ponds in natural drainage ways, excluding dry ponds: X New ponds provided that a riparian buffer that meets the requirements of Items (4) and (5) of this Rule is established adjacent to the pond X New ponds where a riparian buffer that meets the requirements of Items (4) and (5) of this Rule is NOT established adjacent to the pond		X	X	
Protection of existing structures, facilities and streambanks 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	
Railroad crossings of streams and other surface waters subject to this Rule: X Railroad crossings that impact equal to or less than 40 linear feet of riparian buffer X 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 X Railroad crossings that impact greater than 150 linear feet or one-third of an acre of riparian buffer	X	X	X	
Removal of previous fill or debris provided that diffuse flow is maintained and any vegetation removed 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: X Road crossings that impact equal to or less than 40 linear feet of riparian buffer X 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 X Road crossings that impact greater than 150 linear feet or one-third of an acre of riparian buffer	X	X	X	
Scientific studies and stream gauging	X			
Stormwater management ponds excluding dry ponds: X New stormwater management ponds provided that a riparian buffer that meets the requirements of Items (4) and (5) of this Rule is established adjacent to the pond X New stormwater management ponds where a riparian buffer that meets the requirements of Items (4) and (5) of this Rule is NOT established adjacent to the pond		X	X	
Stream restoration	X			
Streambank stabilization		X		
Temporary roads: X Temporary roads that disturb less than or equal to 2,500 square feet provided that vegetation is restored within six months of initial disturbance X Temporary roads that disturb greater than 2,500 square feet provided that vegetation is restored within six months of initial disturbance X Temporary roads used for bridge construction or replacement provided that restoration activities, such as soil stabilization and revegetation, are conducted immediately after construction	X	X X		
Temporary sediment and erosion control devices: X In Zone 2 only provided that the vegetation in Zone 1 is not compromised and that discharge is released as diffuse flow in accordance with Item (5) of this Rule X In Zones 1 and 2 to control impacts associated with uses approved by the Division 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	X X	X		
Underground electric utility lines: X Impacts other than perpendicular crossings in Zone 2 only[3] X Impacts other than perpendicular crossings in Zone 1[3,4]	X X			
Underground electric utility line perpendicular crossings of streams and other surface waters subject to this Rule:[3] X Perpendicular crossings that disturb less than or equal to 40 linear feet of riparian buffer[3,4] X Perpendicular crossings that disturb greater than 40 linear feet of riparian buffer[3,4]	X	X		

[4] Provided that, in Zone 1, 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 alternatives evaluation by the Division.

- 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.
- 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.

	Exempt	Allowable	Allowable with Mitigation	Prohibited
Vegetation management:				
X Emergency fire control measures provided that topography is restored	X			
X Periodic mowing and harvesting of plant products in Zone 2 only	X			
X Planting vegetation to enhance the riparian buffer	X			
X Pruning forest vegetation provided that the health and function of the forest vegetation is not compromised	X			
X Removal of individual trees which are in danger of causing damage to dwellings, other structures or human life	X			
X Removal of poison ivy	X			
X Removal of understory nuisance vegetation as defined in: Smith, Cherri L. 1998. Exotic Plant Guidelines. Department of Environment and Natural Resources. Division of Parks and Recreation. Raleigh, NC. Guideline #30	X			
Water dependent structures as defined in 15A NCAC 2B .0202		X		
Water supply reservoirs:				
X New reservoirs provided that a riparian buffer that meets the requirements of Items (4) and (5) of this Rule is established adjacent to the reservoir		X		
X New reservoirs where a riparian buffer that meets the requirements of Items (4) and (5) of this Rule is NOT established adjacent to the reservoir			X	
Water wells	X			
Wetland restoration	X			

(7) REQUIREMENTS FOR CATEGORIES OF USES. Uses designated as exempt, allowable, allowable with mitigation and prohibited in Item (6) of this Rule shall have the following requirements:

(a) EXEMPT. Uses designated as exempt are allowed within the riparian buffer. Exempt uses shall be designed, constructed and maintained to minimize soil disturbance and to provide the maximum water quality protection practicable. In addition, exempt uses shall meet requirements listed in Item (6) of this Rule for the specific use.

(b) ALLOWABLE. Uses designated as allowable may proceed within the riparian buffer provided that there are no practical alternatives to the requested use pursuant to Item (8) of this Rule. These uses require written authorization from the Division or the delegated local authority.

(c) ALLOWABLE WITH MITIGATION. Uses designated as allowable with mitigation may proceed within the riparian buffer provided that there are no practical alternatives to the requested use pursuant to Item (8) of this Rule and an appropriate mitigation strategy has been approved pursuant to Item (10) of this Rule. These uses require written authorization from the Division or the delegated local authority.

(d) PROHIBITED. Uses designated as prohibited may not proceed within the riparian buffer unless a variance is granted pursuant to Item (9) of this Rule. Mitigation may be required as one condition of a variance approval.

(8) DETERMINATION OF "NO PRACTICAL ALTERNATIVES." 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 Division or to the delegated local authority. The applicant shall certify that the criteria identified in Sub-Item (8)(a) of this Rule are met. The Division or the delegated local authority shall grant an Authorization Certificate upon a Ano practical alternatives@ determination. The procedure for making an Authorization Certificate shall be as follows:

(a) For any request for an Authorization Certificate, the Division or the delegated local authority shall review the entire project and make a finding of fact as to whether the following requirements have been met in support of a "no practical alternatives" determination:

(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.

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

(b) Requests for an Authorization Certificate shall be reviewed and either approved or denied within 60 days of receipt of a complete submission based on the criteria in Sub-Item (8)(a) of this Rule by either the Division or the delegated local authority. Failure to issue an approval or denial within 60 days shall constitute that the applicant has demonstrated "no practical alternatives." The Division or the delegated local authority may attach conditions to the Authorization Certificate that support the purpose, spirit and intent of the riparian buffer protection program. Complete submissions shall include the following:

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

(9) VARIANCES. Persons who wish to undertake uses designated as prohibited may pursue a variance. The Division or the appropriate delegated local authority may grant minor variances. The variance request procedure shall be as follows:

(a) For any variance request, the Division or the delegated local authority shall make a finding of fact as to whether the following requirements have been met:

(i) There are practical difficulties or unnecessary hardships that prevent compliance with the strict letter of the riparian buffer protection requirements. Practical difficulties or unnecessary hardships shall be evaluated in accordance with the following:

(A) 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 Division or delegated local authority 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.

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

(C) The hardship is due to the physical nature of the applicant's property, such as its size, shape, or topography, which is different from that of neighboring property.

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

(E) The applicant did not purchase the property after the effective date of this Rule, and then requesting an appeal.

(F) The hardship is unique to the applicant's property, rather than the result of conditions that are widespread. If other properties are equally subject to the hardship created in the restriction, then granting a variance would be a special privilege denied to others, and would not promote equal justice;

(ii) The variance is in harmony with the general purpose and intent of the State's riparian buffer protection requirements and preserves its spirit; and

(iii) In granting the variance, the public safety and welfare have been assured water quality has been protected, and substantial justice has been done.

(b) MINOR VARIANCES. A minor variance request pertains to activities that are proposed only to impact any portion of Zone 2 of the riparian buffer. Minor variance requests shall be reviewed and approved based on the criteria in Sub-Item (9)(a) of this Rule by the either the Division or the delegated local authority pursuant to G.S. 153A Article 18, or G.S. 160A-Article 19. The Division or the delegated local authority may attach conditions to the variance approval that support the purpose, spirit and intent of the riparian buffer protection program. Requests for appeals of decisions made by the Division shall be made to the Office of Administrative Hearings. Request for appeals made by the delegated local authority shall be made to the appropriate Board of Adjustment under G.S. 160A-388 or G.S. 153A-345.

(c) MAJOR VARIANCES. A major variance request pertains to activities that are proposed to impact any portion of Zone 1 or any portion of both Zones 1 and 2 of the riparian buffer. If the Division or the delegated local authority has determined that a major variance request meets the requirements in Sub-Item (9)(a) of this Rule, then it shall prepare a preliminary finding and submit it to the Commission. Preliminary findings on major variance requests shall be reviewed by the Commission within 90 days after receipt by the Director. Requests for appeals of determinations that the requirements of Sub-Item (9)(a) of this Rule have not been met shall be made to the Office of Administrative Hearings for determinations made by the Division or the appropriate Board of Adjustments under G.S. 160A-388 or G.S. 153A-345 for determinations made by the delegated local authority. The purpose of the Commission's review is to determine if it agrees that the requirements in Sub-Item (9)(a) of this Rule have been met. Requests for appeals of decisions made by the Commission shall be made to the Office of Administrative Hearings. The following actions shall be taken depending on the Commission's decision on the major variance request:

(i) Upon the Commission's approval, the Division or the delegated local authority shall issue a final decision granting the major variance.

(ii) Upon the Commission's approval with conditions or stipulations, the Division or the delegated local authority shall issue a final decision, which includes these conditions or stipulations.

(iii) Upon the Commission's denial, the Division or the delegated local authority shall issue a final decision denying the major variance.

(10) 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 (8) of this Rule.

(b) Obtain approval for a mitigation proposal pursuant to 15A NCAC 2B .0242.

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

(a) The following measures shall apply in the entire riparian buffer:

(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 1I .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 water body.

(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 or application of pesticides necessary to prevent or control extensive tree pest and disease infestation shall be allowed. These practices must be approved by the Division of Forest Resources for a specific site. 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. Plantings shall consist primarily of native species.

(ix) High intensity prescribed burns shall not be allowed.

(x) Application of fertilizer shall not be allowed except as necessary for permanent stabilization. Broadcast application of fertilizer or herbicides 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 1, 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 G.S. 277.6 or on forest lands that 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. For such forest lands, selective harvest is allowed in accordance with the following:

(i) Tracked or wheeled vehicles are not permitted except at stream crossings designed, constructed and maintained in accordance with 15A NCAC 1I .0203.

(ii) Soil disturbing site preparation activities are not allowed.

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

(iv) The following provisions for selective harvesting shall be met:

(A) 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 as defined provided that no trees with exposed primary roots visible in the streambank be cut.

(B) In the outer 20 feet of Zone 1, 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.

(C) In Zone 2, harvesting and regeneration of the forest stand shall be allowed provided that sufficient ground cover is maintained to provide for diffusion and infiltration of surface runoff.

(12) REQUIREMENTS SPECIFIC TO LOCAL GOVERNMENTS WITH STORMWATER PROGRAMS FOR NITROGEN CONTROL. Local governments that are required to have local stormwater programs pursuant to 15A NCAC 2B .0235 shall have two options for ensuring protection of riparian buffers on new developments within their jurisdictions as follows.

(a) Obtain authority to implement a local riparian buffer protection program pursuant to 15A NCAC 2B .0241.

(b) Refrain from issuing local approvals for new development projects unless either:

(i) The person requesting the approval does not propose to impact the riparian buffer of a surface water that appears on either the most recent versions of the soil survey maps prepared by the Natural Resources Conservation Service of the United States Department of Agriculture or the most recent versions of the 1:24,000 scale (7.5 minute quadrangle) topographic maps prepared by the United States Geologic Survey (USGS).

(ii) The person requesting the approval proposes to impact the riparian buffer of a surface water that appears on the maps described in Sub-Item (12)(b)(i) of this Rule and either:

(A) Has received an on-site determination from the Division pursuant to Sub-Item (3)(a) of this Rule that surface waters are not present;

(B) Has received an Authorization Certificate from the Division pursuant to Item (8) of this Rule for uses designated as Allowable under this Rule;

(C) Has received an Authorization Certificate from the Division pursuant to Item (8) of this Rule and obtained the Division's approval on a mitigation plan pursuant to Item (10) of this Rule for uses designated as Allowable with Mitigation under this Rule; or

(D) Has received a variance from the Commission pursuant to Item (9) of this Rule.

(13) OTHER LAWS, REGULATIONS AND PERMITS. In all cases, compliance with this Rule does not preclude the requirement to comply with all federal, state and local regulations and laws.

History Note: Authority G.S. 143-214.1; 143-214.7; 143-215.3(a)(1); S.L. 1995, c. 572; Temporary Adoption Eff. July 22, 1997; Temporary Adoption Eff. June 22, 1999; April 22, 1998; January 22, 1998;Eff. August 1, 2000.

1.6 - Catawba River Buffer Rules

15A NCAC 02B .0243 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 protect and preserve 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. For the purpose of Rules 15A NCAC 02B .0243 and 15A NCAC 02B .0244, 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, signage, etc.
- (b) "Archaeological Activities" means activities conducted by a Registered Professional Archaeologist (RPA).
- (c) "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 other 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.
- (d) "Approved local government" means any government with a riparian buffer ordinance approved by the Division pursuant to Subparagraph (3)(b) of this Rule.
- (e) "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.
- (f) "DBH" means diameter at breast height of a tree measured at 4.5 feet above ground surface level.
- (g) "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.
- (h) "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.
- (i) "Greenway / Hiking Trails" means pedestrian trails constructed of pervious and impervious surfaces and related structures including but not limited to boardwalks, steps, rails, signage, etc.
- (j) "High Value Tree" means a tree whose stump diameter is equal to or exceeding 18-inches.

(k) "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).

(l) "Riparian buffer enhancement" is defined as the process of converting a non-forested riparian area, where woody vegetation is sparse (greater than or equal to 100 trees per acre but less than 200 trees per acre) to a forested riparian buffer area. The enhanced, forested riparian buffer area shall include a minimum of at least two native hardwood tree species planted at a density sufficient to provide 320 trees per acres at maturity, and diffuse flow through the riparian buffer shall be maintained.

(m) "Riparian buffer restoration" is defined as the process of converting a non-forested riparian area, where woody vegetation is absent (less than 100 trees per acre) to a forested riparian buffer area. The restored, forested riparian buffer area shall include a minimum of at least two native hardwood tree species planted at a density sufficient to provide 320 trees per acres at maturity, and diffuse flow through the riparian buffer shall be maintained.

(n) "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, rip rap, or gabions, while providing bank stabilization, shall not be considered stream restoration.

(o) "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.

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

(q) "Surface water" means all waters of the state as defined in G.S. 143-212 except underground waters.

(r) "Temporary road" means a road constructed temporarily for equipment access to build or replace hydraulic conveyance structures or water dependent structures, or to maintain public traffic during construction.

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

(3) APPLICABILITY. This Rule shall apply to a 50-foot wide riparian buffer along the Catawba River mainstem below Lake James and along the mainstem lakes in the Catawba River Basin, excluding wetlands. Wetlands within 50 feet of surface waters shall be considered as part of the riparian buffer but are regulated pursuant to 15A NCAC 02H .0506. The riparian buffers protected by this Rule shall be measured pursuant to Item (4) of this Rule. Riparian buffers along the Catawba River mainstem below Lake James and along mainstem lakes shall be subject to this Rule unless one of the following applies.

(a) EXEMPTION WHEN EXISTING USES ARE PRESENT AND ONGOING. This Rule shall not apply to portions of the riparian buffer where a use is existing and ongoing. Only the portion of the riparian buffer that contains the footprint of the existing and ongoing use is exempt from this Rule. The determination of whether a use is existing and ongoing will be made either by the Division or approved local government; whichever is appropriate according to the administration of the buffer program. A use is existing and ongoing when it is a completed and maintained activity, an activity with appropriate valid permits, or an activity with documentation for unexpired vested rights, as described below:

(i) A use that was present within the riparian buffer as of June 30, 2001 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. 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 the Rule, and existing diffuse flow is maintained. Grading and revegetating Zone 2 is allowed provided that the health of the vegetation in Zone 1 is not compromised, the ground is stabilized and existing diffuse flow is maintained.

(ii) A use that can be documented to the Division or the appropriate approved local government that meets at least one of the following criteria:

(A) Project requires a 401 Certification/404 Permit, these were issued prior to June 30, 2001 and are still valid;

(B) 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 prior to June 30, 2001;

(C) 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 June 30, 2003; and

(D) 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 DWQ prior to June 30, 2001.

(iii) A project that can be documented to the Division or the appropriate approved local government that has vested rights that were established or recognized for that project under the common law or by G.S. 153A-344(b), 153A-344.1, 160A-385(b), or 160A-385.1 prior to July 1, 2001. This Rule does not confer or restrict a vested right established or recognized under common law or G.S. 153A-344(b), 153A-344.1, 160A-385(b), or 160A-385.1.

(iv) This Rule shall apply at the time an existing use is changed to another use. Change of use shall include the following:

(A) Impervious surface is added to the riparian buffer in locations where it did not exist previously either on the ground or in proposed site plans showing the locations of proposed impervious surfaces for uses defined as existing and ongoing in Subitem (3)(a)(ii) or Subitem (3)(a)(iii) of this Rule; or

(B) An agricultural operation within the riparian buffer is converted to a non-agricultural use.

(b) LOCAL GOVERNMENTS THAT HAVE APPROVED RIPARIAN BUFFER ORDINANCES. All local governments that have land use authority along the Catawba River mainstem below Lake James and along mainstem lakes in the Catawba River Basin may adopt local riparian buffer ordinances to protect water quality. The Division shall approve the local riparian buffer ordinance within 30 days after receiving the request from local governments, if the Division determines that the local riparian buffer ordinance provides equal to or greater water quality protection than this Rule. This Rule shall not apply in any area where a local government has obtained the Division's approval of the local riparian buffer ordinance, provided that the local government is implementing and enforcing the approved local riparian buffer ordinance. The Division, upon determination that the local government is failing to implement or enforce the approved local buffer ordinance, shall notify the local government in writing of the local program inadequacies. If the local government has not corrected the deficiencies within 90 days of receipt of written notification, then the Division shall implement and enforce the provisions of this Rule.

(c) RIPARIAN AREAS AND ACTIVITIES NOT REGULATED UNDER AN APPROVED LOCAL GOVERNMENT ORDINANCE. The Division shall be responsible for the implementation of this rule for all riparian areas and activities not regulated under a Division-approved local government ordinance.

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

(a) Zone 1 shall consist of a forested area that is undisturbed except for uses provided for in Item (6) 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 surface water, measured horizontally on a line perpendicular to a vertical line marking the edge of the top of the bank.

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

(b) Zone 2 shall consist of a stable, vegetated area that is undisturbed except for uses provided for in Item (6) 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 a vertical line marking the outer edge of Zone 1. 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.

(5) DIFFUSE FLOW REQUIREMENT. Diffuse flow of runoff shall be maintained in the riparian buffer by dispersing concentrated flow and reestablishing vegetation.

(a) Concentrated runoff from new ditches or manmade conveyances shall be converted to diffuse flow at non-erosive velocities before the runoff enters Zone 2 of the riparian buffer.

(b) Periodic corrective action to restore diffuse flow shall be taken if necessary to impede the formation of erosion gullies.

(c) No new stormwater conveyances are allowed through the buffers except for stormwater management ponds provided for in Item (6) of this Rule.

(6) TABLE OF USES. The following chart sets out the uses and their category designation under this Rule as exempt, allowable, or allowable with mitigation. Any uses, which are not listed in the table, are prohibited. The requirements for each category listed in the table as well as prohibited uses not set out in the table are given in Item (7) 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	X		
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	
Airport facilities:			
Airport or airstrip facilities that impact equal to or less than 150 linear feet or one-third of an acre of riparian buffer		X	
Airport or airstrip facilities that impact greater than 150 linear feet or one-third of an acre of riparian buffer			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	X		
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	
Drainage ditches, roadside ditches and stormwater outfalls through riparian buffers:			
Existing drainage ditches, roadside ditches, and stormwater outfalls provided that they are managed to minimize the sediment, nutrients and other pollution that convey to waterbodies	X		
New drainage ditches, roadside ditches and stormwater outfalls provided that a stormwater management facility is installed to control pollutants and attenuate flow before the conveyance discharges through the riparian buffer		X	
New stormwater discharges to existing man-made conveyances (including, but not limited to, drainage ditches, roadside ditches, and stormwater outfalls) provided that the new stormwater discharge does not result in the need to alter the existing man-made conveyances		X	
Driveway crossings of surface waters subject to this Rule:			
Driveway crossings on single family residential lots subdivided or recorded prior to the effective date of this Rule that disturb equal to or less than 25 linear feet or 2,500 square feet of riparian buffer	X		
Driveway crossings on single family residential lots subdivided or recorded prior to the effective date of this Rule that disturb greater than 25		X	

linear feet or 2,500 square feet of riparian buffer □ In a subdivision that cumulatively disturbs equal to or less than 150 linear feet or one-third of an acre of riparian buffer □ In a subdivision that cumulatively disturbs greater than 150 linear feet or one-third of an acre of riparian buffer		X 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 (11) of this Rule			
Grading and revegetation in Zone 2 only provided that diffuse flow and the health of existing vegetation in Zone 1 is not compromised and disturbed areas are stabilized	X		
Greenway / hiking trails		X	
Historic preservation	X		
Mining activities: □ Mining activities that are covered by the Mining Act provided that new riparian buffers that meet the requirements of Items (4) and (5) 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 of Items (4) and (5) of this Rule are not established adjacent to the relocated channels		X X	
Non-electric utility lines: □ Impacts other than perpendicular crossings in Zone 2 only [1] □ Impacts other than perpendicular crossings in Zone 1 [1]		X X	
Non-electric utility line perpendicular crossings of surface waters subject to this Rule [1]: □ Perpendicular crossings that 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 □ Perpendicular crossings that disturb equal to or less than 40 linear feet of riparian buffer with a maintenance corridor greater than 10 feet in width □ Perpendicular crossings that 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 □ Perpendicular crossings that 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 □ Perpendicular crossings that disturb greater than 150 linear feet of riparian buffer regardless of the width of the maintenance corridor	X

- 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.
- Rip rap 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.
- 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 towers shall not be installed within 10 feet of a water body unless the Division completes a no practical alternative evaluation.

Use	Exempt	Allowable	Allowable with Mitigation
Playground equipment: Playground equipment provided that installation and use does not result in removal of trees as defined in this Rule Playground equipment where installation and use requires removal of trees as defined in this Rule	X	X	
Properties that have been subdivided by a preliminary subdivision plat [4] approved by local governments within the Catawba River Basin within 2 years prior to June 30, 2001 for conventional subdivisions and within 5 years prior to June 30, 2001 for phased subdivisions: Uses in Zone 2 provided that the ground is stabilized and diffuse flow is maintained Uses in Zone 1 provided that the ground is stabilized and diffuse flow is maintained. On-site waste systems, septic tanks and drainfields are not allowed in Zone 1	X	X	
Properties that are included on a recorded subdivision plan prior to June 30, 2001: Uses in Zone 2 provided that the ground is stabilized and diffuse flow is maintained Uses in Zone 1 provided that the ground is stabilized and diffuse flow is maintained. On-site waste systems, septic tanks and drainfields are not allowed in Zone 1	X	X	
Protection of existing structures, facilities and shoreline when this requires additional disturbance of the riparian buffer or the channel		X	
Pumps for agricultural irrigation in Zone 1 provided that installation and use does not result in removal of trees as defined in this Rule	X		

[4] The submitted preliminary subdivision plat shall include all the following information:

- Total acreage of land proposed for platting.
- The boundaries of the tract or portion thereof to be subdivided, with all bearings and distances accurately shown, including dimensions of all lot lines.
- Location and use of all existing and proposed easements. This includes easements for drainage and utilities.
- Location, width of rights-of-way and all proposed streets.
- Location of all utilities installations.
- Distance to nearest public water supply and sanitary sewerage systems.
- Significant natural features including existing riparian buffer areas, existing wetlands, lakes or rivers, or other natural features affecting the site.
- Existing physical features including buildings, streets, railroads, power lines, drainage ways, sewer and water or spring heads, and town limit lines both to or adjacent to the land to be subdivided.

Use	Exempt	Allowable	Allowable with Mitigation
Railroad impacts other than crossings of surface waters subject to this Rule			X
Recreational and accessory structures: Recreational and accessory structures such as decks, gazebos and sheds provided the total cumulative footprint of all structures within the buffer does not exceed 150 square feet, that the structures are elevated above pervious ground, that installation does not result in removal of trees as defined in this Rule, and that they are not otherwise prohibited under the local water supply watershed ordinance Recreational and accessory structures such as decks, gazebos, and sheds with a cumulative footprint of more than 150 square feet provided that the structures are elevated above pervious ground, that installation does not result in removal of trees as defined in this Rule, and that they are not otherwise prohibited under the local water supply watershed ordinance	X X		
Removal of previous fill or debris provided that diffuse flow is maintained and any vegetation removed is restored	X		
Road impacts other than crossings of surface waters subject to this Rule			X
Road crossings of 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		
Scientific studies and gauging station	X		
Stormwater management ponds excluding dry ponds: New stormwater management ponds provided that a riparian buffer that meets the requirements of Items (4) and (5) of this Rule is established adjacent to the pond New stormwater management ponds where a riparian buffer that meets the requirements of Items (4) and (5) of this Rule is NOT established adjacent to the pond Stormwater constructed wetland and bio-retention area		X X X	
Shoreline stabilization		X	
Temporary roads: Temporary roads that disturb less than or equal to 2,500 square feet provided that vegetation is restored within six months of initial disturbance Temporary roads that disturb greater than 2,500 square feet provided that vegetation is restored within six months of initial disturbance Temporary roads used for culvert installation, bridge construction or replacement provided that restoration activities, such as soil stabilization and revegetation, are conducted immediately after construction	X X X		
Temporary sediment and erosion control devices: In Zone 2 only provided that the vegetation in Zone 1 is not compromised and that discharge is released as diffuse flow in accordance with Item (5) of this Rule In Zones 1 and 2 to control impacts associated with uses approved by the Division 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 In-stream temporary erosion and sediment control measures for work within a stream channel	X X X		

Underground electric utility lines: Impacts other than perpendicular crossings in Zone 2 only [1] Impacts other than perpendicular crossings in Zone 1[1,5]	X X		
Underground electric utility line perpendicular crossings of surface waters subject to this Rule: [1] Perpendicular crossings that disturb less than or equal to 40 linear feet of riparian buffer [5] Perpendicular crossings that disturb greater than 40 linear feet of riparian buffer [5]	X	X	
Vehicle access roads and boat ramps leading to the surface water, docks, fishing piers, and other water dependent activities: Vehicular access roads and boat ramps to the surface water but not crossing the surface water that are restricted to the minimum width practicable not to exceed 10 feet in width Vehicular access roads and boat ramps to the surface water but not crossing the surface water that are restricted to the minimum width practicable and exceed 10 feet in width		X	X
View corridors: Thinning of underbrush, shrubs, and limbs up to 50% of individual tree height to enhance a lake view provided soils are undisturbed, diffuse flow is maintained and no stems of woody vegetation larger than 3" DBH are removed Thinning of underbrush, shrubs, and limbs above 50% of individual tree height to enhance a lake view provided soils are undisturbed, diffuse flow is maintained and no stems of woody vegetation larger than 3" DBH are removed	X	X	

[5] Provided that, in Zone 1, 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 Division.

- Woody vegetation shall be cleared by hand. No land grubbing or grading is allowed.
- Except as specified within this footnote, 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.
- 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.

Use	Exempt	Allowable	Allowable with Mitigation
Vegetation management: Emergency fire control measures provided that topography is restored Periodic mowing and harvesting of plant products in Zone 2 only Planting vegetation to improve water quality protection function of the riparian buffer Pruning forest vegetation provided that the health and function of the forest vegetation is not compromised Removal of individual trees which are in danger of causing damage to dwellings, other structures or human life Removal of individual trees which are dead, diseased or damaged Removal of poison ivy Removal of understory nuisance vegetation listed in Appendix III of: Smith, Cherri L. 1998. Exotic Plant Guidelines. Department of Environment and Natural Resources. Division of Parks and Recreation. Raleigh, NC. Guideline #30	X X X X X X X X		

Water dependent structures: Water dependent structures as defined in 15A NCAC 02B .0202 where installation and use do not result in disturbance to riparian buffers Water dependent structures as defined in 15A NCAC 02B .0202 where installation and use result in disturbance to riparian buffers	X X		
Water wells: Single family residential water wells All other water wells	X X		
Wetland, stream and buffer restoration that results in impacts to the riparian buffers: Wetland, stream and buffer restoration that requires DWQ approval for the use of a 401 Water Quality Certification Wetland, stream and buffer restoration that does not require DWQ approval for the use of a 401 Water Quality Certification	X X		

(7) REQUIREMENTS FOR CATEGORIES OF USES. Uses designated as exempt, allowable, and allowable with mitigation in Item (6) of this Rule and prohibited in this Rule shall have the following requirements:

(a) EXEMPT. Uses designated as exempt are allowed within the riparian buffer. Exempt uses shall be designed, constructed and maintained to minimize soil disturbance and to provide the maximum water quality protection practicable. In addition, exempt uses shall meet requirements listed in Item (6) of this Rule for the specific use.

(b) ALLOWABLE. Uses designated as allowable may proceed within the riparian buffer provided that there are no practical alternatives to the requested use pursuant to Item (8) of this Rule and that disturbance to the buffer is minimized. These uses require prior written authorization from the Division or from a local government with an approved riparian buffer ordinance pursuant to Sub-Item (3)(b) of this Rule.

(c) ALLOWABLE WITH MITIGATION. Uses designated as allowable with mitigation may proceed within the riparian buffer provided that there are no practical alternatives to the requested use pursuant to Item (8) of this Rule and an appropriate mitigation strategy has been approved pursuant to Item (10) of this Rule. These uses require written authorization from the Division or the approved local government.

(d) PROHIBITED. All uses not designated as exempt, allowable or allowable with mitigation are considered prohibited and may not proceed within the riparian buffer unless a variance is granted pursuant to Item (9) of this Rule. Mitigation may be required as one condition of a variance approval.

(8) DETERMINATION OF "NO PRACTICAL ALTERNATIVES." 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 Division or to the approved local government. The applicant shall certify that the criteria identified in Sub-Item (8)(a) of this Rule are met. The Division or the approved local government shall grant an Authorization Certificate upon a "no practical alternatives" determination. The procedure for making an Authorization Certificate shall be as follows:

(a) For any request for an Authorization Certificate, the Division or the approved local government shall review the entire project and make a finding of fact as to whether the following requirements have been met in support of a "no practical alternatives" determination:

(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.

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

(b) Requests for an Authorization Certificate shall be reviewed and either approved or denied within 60 days of receipt of a complete submission based on the criteria in Sub-Item (8)(a) of this Rule by either the Division or the approved local government. Failure to issue an approval or denial within 60 days shall constitute that the applicant has demonstrated "no practical alternatives." An Authorization Certificate shall be issued to the applicant, unless:

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

(ii) Applicant fails to furnish requested information necessary to the Division's or approved local government's decision; or

(iii) Information necessary to the Division's or approved local government's decision.

The Division or the approved local government may attach conditions to the Authorization Certificate that support the purpose, spirit and intent of the riparian buffer protection program. Complete submissions to

the Division shall use the appropriate Pre-Construction Notification (PCN) Application Form and shall submit the completed form to the Division. Complete submissions to the delegated local government shall include the following unless otherwise identified within an approved local government ordinance:

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

(9) VARIANCES. Persons who wish to undertake uses designated as prohibited may pursue a variance. The Division or the appropriate approved local government shall make all of the following findings of fact and may grant variances. The variance request procedure shall be as follows:

(a) For any variance request, the Division or the approved local government shall make a finding of fact to insure that the following requirements have been met:

(i) There are practical difficulties or hardships that prevent compliance with the riparian buffer protection requirements. Practical difficulties or unnecessary hardships shall be evaluated in accordance with the following:

(A) If the applicant complies with the provisions of this Rule, he or she can secure no reasonable return from, nor make reasonable use of, his or 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 Division or the approved 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.

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

(C) The hardship is due to the physical nature of the applicant's property, such as its size, shape, or topography, which is different from that of neighboring property.

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

(E) The hardship is unique to the applicant's property, rather than the result of conditions that are widespread. If other properties are equally subject to the hardship created in the restriction, then granting a variance would be a special privilege denied to others, and would not promote equal justice.

(ii) The variance is in harmony with the general purpose and intent of the Catawba River Basin's riparian buffer protection requirements and preserves its spirit; and

(iii) In granting the variance, the public safety and welfare have been assured, water quality has been protected, and justice has been done.

(b) Variance requests shall be reviewed and approved based on the criteria in Sub-Item (9)(a) of this Rule by either the Division or the approved local government pursuant to G.S. 153A, Article 18, or G.S. 160A, Article 19. The Division or the approved local government may attach conditions to the variance approval that support the purpose, spirit and intent of the riparian buffer protection program. Requests for appeals of decisions made by the Division shall be made to the Office of Administrative Hearings. Request for appeals of decisions made by the approved local government shall be made to the appropriate Board of Adjustment under G.S. 160A-388 or G.S. 153A-345 for determinations made by the approved local government.

(10) 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 (8) of this Rule.

(b) Obtain approval for a mitigation proposal pursuant to 15A NCAC 02B .0244.

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

(a) The following measures shall apply in Zone 1 of the riparian buffer:

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

(ii) Timber felling shall be directed away from the water body.

(iii) Skidding shall be directed away from the water body and shall be done in a manner that minimizes soil disturbance and prevents the creation of channels or ruts in accordance with 15A NCAC 01I .0203 as enforced by the Division of Forest Resources.

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

(v) Harvesting of dead or infected trees or application of pesticides necessary to prevent or control 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 this Rule. The Division of Forest Resources must notify the Division of all approvals.

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

(vii) 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. Plantings shall consist primarily of native species.

(viii) Prescribed burns shall not be allowed.

(ix) Application of fertilizer shall not be allowed except as necessary for permanent stabilization. Broadcast application of fertilizer or herbicides 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 1, 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 G.S. 277.6 or on forest lands that 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. For such forest lands, selective harvest is allowed in accordance with the following:

(i) Tracked or wheeled vehicles are not permitted except at stream crossings designed, constructed and maintained in accordance with 15A NCAC 01I .0203 as enforced by the Division of Forest Resources.

(ii) Soil disturbing site preparation activities are not allowed.

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

(iv) The following provisions for selective harvesting shall be met:

(A) 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 as defined.

(B) In the outer 20 feet of Zone 1, trees greater than 12-inch diameter stump 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.

(c) In Zone 2, harvesting and regeneration of the forest stand shall be allowed in accordance with 15A NCAC 01I .0100 – .0200 as enforced by the Division of Forest Resources.

(12) OTHER LAWS, REGULATIONS AND PERMITS. In all cases, compliance with this Rule does not preclude the requirement to comply with all federal, state and local regulations and laws. Whichever regulation is more restrictive shall apply.

History Note: *Authority G.S. 143-214.1; 143-214.7; 143-215.3(a)(1); S.L. 1999, c. 329, s. 7.1; S.B 824-2003;Temporary Adoption Eff. June 30, 2001; (exempt from 270 day requirement - S.L. 2001-418 & S.L. 2003-340). Eff. August 1, 2004.*

1.7 - Randleman Lake Watershed Riparian Buffer Rules

15A NCAC 02B .0250 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 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 protect and preserve 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. Local governments with jurisdictions in Randleman Lake watershed shall establish programs to meet or exceed the minimum requirements of this Rule. However, the Division shall assume responsibility for applying the requirements of this Rule to activities listed in Item (3) of this Rule. The requirements of this Rule shall supersede all buffer requirements stated in Rules 15A NCAC 02B .0214 through .0216 as applied to WS-II, WS-III, and WS-IV waters in the Randleman Lake watershed. Parties subject to this Rule may choose to implement more stringent rules, including the one-hundred foot buffer requirement set out in Sub-item (3)(b)(i) of Rules 15A NCAC 02B .0214 through .0216 for high-density developments.

(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 (but not limited to) boardwalks, steps, rails, signage;

(b) 'Archaeological Activities' means activities conducted by a Registered Professional Archaeologist (RPA);

(c) 'Airport Facilities' means all properties, facilities, buildings, structures, and activities that satisfy or otherwise fall within the scope of one or more of the definition 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. Airport facilities 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;

(d) '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;

(e) 'DBH' means diameter at breast height of a tree measured at 4.5 feet above ground surface level;

(f) Ditch means a man-made, open drainage way in or into which excess surface water or groundwater from land, stormwater runoff, or floodwaters flow either continuously or intermittently;

(g) 'Ephemeral stream' means a feature that carries stormwater in direct response to precipitation with water flowing only during and shortly after large precipitation events. An ephemeral stream may or may not have a well-defined channel, the aquatic bed is always above the 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;

(h) '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;

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

(j) '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; and, for hardwoods and wetland species, 16 inch DBH or greater or 24 inch or greater stump diameter;

(k) 'Intermittent stream' means a well-defined channel that contains a continuous flow of water for only part of the year, typically during winter and spring when the aquatic bed is below the water table. The flow may

be heavily supplemented by stormwater runoff. An intermittent stream often lacks the biological and hydrological characteristics commonly associated with the continuous conveyance of water;

(l) '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 the continuous conveyance of water;

(m) '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 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;

(n) '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. For the purpose of the State's riparian buffer protection program, the waterbody must be part of a natural drainage way (i.e., connected by surface flow to a stream);

(o) '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, rip rap, or gabions, while providing bank stabilization, shall not be considered stream restoration;

(p) '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. 'Stream' means a body of concentrated flowing water in a natural low area or natural channel on the land surface;

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

(r) 'Surface waters' means all waters of the state as defined in G.S. 143-212 except underground waters and wetlands;

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

(t) 'Tree' means a woody plant with a DBH equal to or exceeding five inches or a stump diameter exceeding six inches.

(3) APPLICABILITY. This Rule shall apply to all local governments with jurisdictions in the Randleman Lake watershed. Local governments shall develop riparian buffer protection programs for approval by the Division incorporating the minimum standards set out throughout this Rule and shall apply the requirements of this Rule throughout their jurisdictions within the Randleman watershed except where the Division shall exercise jurisdiction. For the following types of buffer activities in the Randleman 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 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 16 of this Rule; and

(f) Agricultural activities.

(4) REQUIREMENTS. The following minimum criteria shall be used for identifying regulated buffers. All local governments subject to this Rule shall develop riparian buffer protection programs and ordinances for approval by the Commission, incorporating the minimum standards contained in Rule. This Rule shall apply to 50 foot wide riparian buffers directly adjacent to surface waters in the Randleman watershed (intermittent and perennial streams, lakes, reservoirs, and ponds) excluding wetlands. 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.

(a) Surface waters 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 Division or local government the presence of waters not shown on any of these maps:

(i) The most recent version of the United States Geological Survey 1:24,000 scale (7.5 minute quadrangle) topographic maps;

(ii) The most recent version of the hardcopy soil survey maps developed by USDA-Natural Resource Conservation Service; or

(iii) A map approved by the Geographic Information Coordinating Council and by the Commission. Prior to approving a map under this sub-division the Commission shall provide a 30-day public notice and opportunity for comment;

(b) Where the specific origination point of an intermittent or perennial stream is in question, parties subject to this Rule shall use the Division publication, *Identification Methods for the Origins of Intermittent and Perennial Streams, v 3.1 February 28, 2005* available at: http://portal.ncdenr.org/web/wq/swp/ws/401/waterresources/streamdeterminations to establish that point;

(c) Local governments may develop stream network maps for the watershed based on maps referenced in Sub-Item (4)(a) of this Rule or criteria identified in Sub-Item (4)(b) and of this Rule. These maps shall be submitted to the Director for review to establish that proper methods were used by any local government wishing to use such maps for implementation of riparian area protection. The local map must be at least as accurate as the map identified in Sub-Items (4)(a)(i) and (4)(a)(ii) and must use the stream identification manual as referenced in Item (4)(b) of this Rule. Riparian areas shall be protected and maintained in accordance with this Rule on all sides of surface waters in the Randleman Lake watershed as delineated on these approved stream network maps;

(d) Personnel from delegated local governments that are assigned to perform stream determinations, shall successfully complete the Division's Surface Water Identification Training and Certification Class within three years of the effective revision date of this Rule. A delegated local government shall retain personnel on staff who have successfully completed the Division's class at all times with the exception of staff vacancies and class scheduling problems. At any time that a local government does not have a certified individual retained on staff they shall notify the Division and indicate a proposed schedule to secure a certified staff member;

(e) All local governments that have land use authority within the Randleman Lake water supply watershed shall adopt and enforce this Rule through local water supply and other local ordinances. Ordinances shall require that all riparian protection areas are recorded on new or modified plats. No new clearing, grading, or development shall take place and no new building permits shall be issued in violation of this Rule; and

(f) Parties subject to this Rule shall abide by all State rules and laws regarding waters of the state including Rules 15A NCAC 02H .0500, 15A NCAC 02H .1300, and Sections 401 and 404 of the Federal Clean Water Act.

(5) EXEMPTION REQUIREMENTS TO WHEN AN ON-SITE DETERMINATION SHOWS THAT SURFACE WATERS ARE NOT PRESENT. When a landowner or other affected party believes that the maps have inaccurately depicted surface waters, he or she shall consult the delegated local authority. Upon request, the delegated local authority shall make onsite determinations. Local governments may also accept the results of site assessments made by other parties who have successfully completed the Division's Surface Water Identification Training Certification course and are sanctioned by the Division to make such determinations. Any disputes over on-site determinations shall be referred to the local Board of Adjustment or other local appeals process in writing. For projects proposed for state and federal lands, any disputes 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 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) Areas mapped as intermittent streams, perennial streams, lakes, ponds, or estuaries on the most recent versions of United States Geological Survey 1:24,000 scale (7.5 minute quadrangle) topographic maps, hard-copy soil survey maps or other EMC approved stream maps where no perennial waterbody, intermittent waterbody, lake, pond or estuary actually exists on the ground;

(c) Ephemeral streams; and

(d) Ponds and lakes created for animal watering, irrigation, or other agricultural uses that are not part of a natural drainage way that is classified in accordance with 15A NCAC 02B .0100. Ponds are part of a natural drainage way when they are hydrologically connected (i.e. the pond is fed by an intermittent or perennial stream) or when they have a direct discharge point to an intermittent or perennial stream.

(6) EXEMPTION TO REQUIREMENTS WHEN EXISTING USES ARE PRESENT AND ONGOING. This Rule shall not apply to portions of the riparian buffer where a use is existing and ongoing according to the following:

(a) A use shall be considered existing and ongoing if it was present within the riparian buffer as of the effective date of the local ordinance or local ordinances enforcing this Rule and has continued to exist since that time. For state and federal entities, a use shall be considered existing and ongoing if it was present within the riparian buffer as of the effective date of this Rule and has continued to exist since that time. Existing uses shall include, but not limited to, 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 that contains 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 the local ordinance or local ordinances enforcing this Rule, and existing diffuse flow is maintained. Grading and revegetating Zone 2 is allowed provided that the health of the vegetation in Zone 1 is not compromised, the ground is stabilized and existing diffuse flow is maintained;

(b) A use shall be considered existing if projects or proposed development are determined by the local government, or the Director for the cases involving state or federal entities, 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 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 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 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 effective date of this Rule for state and federal entities: and

(c) This Rule shall apply at the time an existing use is changed to another use. Change of use shall include, but not limited to the initiation of any activity not defined as existing and ongoing in either Sub-Item (6)(a) or (6)(b) of this Rule.

(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 Item (9) 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 surface water, measured horizontally on a line perpendicular to a vertical line marking the edge of the top of the bank; and

(ii) For ponds, lakes and reservoirs located within a natural drainage way, Zone 1 shall begin at the most landward limit of the normal water level or the rooted herbaceous vegetation and extend landward a distance of 30 feet, measured horizontally on a line perpendicular to a vertical line marking the edge of the surface water or rooted herbaceous vegetation: and

(b) Zone 2 shall consist of a stable, vegetated area that is undisturbed except for uses provided for in Item (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.

(8) DIFFUSE FLOW REQUIREMENT. Diffuse flow of runoff shall be maintained in the riparian buffer by dispersing concentrated flow and reestablishing vegetation.

(a) Concentrated runoff from new ditches or manmade conveyances shall be converted to diffuse flow at non-erosive velocities before the runoff enters Zone 2 of the riparian buffer;

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

(c) 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.

(9) TABLE OF USES. The following chart sets out the uses and their designation under this Rule as exempt, potentially allowable, or potentially allowable with mitigation. All uses not designated as exempt, potentially allowable, or potentially allowable with mitigation are considered prohibited and may not proceed within the riparian 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	Potentially Allowable	Potentially 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	X		
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	
Airport facilities:			
Airport facilities that impact equal to or less than 150 linear feet or one-third of an acre of riparian buffer		X	
Airport facilities that impact greater than 150 linear feet or one-third of an acre of riparian buffer			X
Activities necessary to comply with FAA requirements (e.g. radar uses or landing strips)[1]		X	
Archaeological activities:			
In Zones 1 and 2 and are designed, constructed and maintained to provide the maximum sediment removal and erosion protection, to have the least adverse effects on aquatic life and habitat, and to protect water quality to the maximum extent practical.	X		
Bridges		X	
Canoe access provided that installation and use does not result in removal of trees as defined in the 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 a U.S. Army Corps of Engineers Nationwide Permit	X		
Dam maintenance activities that do cause additional buffer disturbance beyond the footprint of the existing dam or those not covered under a U.S. Army Corps of Engineers Nationwide Permit		X	
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	X		
Realignment of existing roadside drainage ditches retaining the design dimensions, provided that no additional travel lanes are		X	

Use	Exempt	Potentially Allowable	Potentially Allowable with Mitigation
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 nitrogen and attenuate flow before the conveyance discharges through the riparian buffer		X	
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
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	X		
Driveway crossings on single family residential lots that disturb greater than 25linear feet or 2,500 square feet of riparian buffer		X	
In a subdivision that cumulatively disturb equal to or less than 150 linear feet or one-third of an acre of riparian buffer		X	
In a subdivision that cumulatively disturb greater than 150 linear feet or one-third of an acre of riparian buffer			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	X		
Fences provided that disturbance is minimized and installation results in removal of trees as defined in this Rule		X	
Forest harvesting - see Item (16) of this Rule			
Fertilizer Application:			
One-time fertilizer application to establish vegetation	X		
Grading and revegetation in Zone 2 provided that diffuse flow and the health of existing vegetation in Zone 1 is not compromised and disturbed areas are revegetated with native vegetation	X		
Greenway / hiking trails:			
Designed, constructed and maintained to provide the maximum nutrient removal and erosion protection, to have the least adverse effects on aquatic life and habitat, and to protect water quality to the maximum extent practical.		X	
Historic preservation:			
Designed, constructed and maintained to provide the maximum nutrient removal and erosion protection, to have the least adverse effects on aquatic life and habitat, and to protect water quality to the maximum extent practical	X		
Maintenance access of 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	

Use	Exempt	Potentially Allowable	Potentially Allowable with Mitigation
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		X	
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			X
Wastewater or mining dewatering wells with approved NPDES permit	X		
Playground equipment:			
• Playground equipment on single family lots provided that installation and use does not result in removal of vegetation	X		
• Playground equipment installed on lands other than single-family lots or that requires removal of vegetation		X	
Ponds in natural drainage ways, excluding dry ponds:			
• New ponds provided that a riparian buffer that meets the requirements of Items (7) & (8) of this Rule is established adjacent to the pond		X	
New ponds where a riparian buffer that meets the requirements of Items (7) & (8) of this Rule is NOT established adjacent to the pond			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
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	X		
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		X	
Railroad crossings that impact greater than 150 linear feet or one-third of an acre of riparian buffer			X
Recreational and accessory structures:			
Total footprint of gazebos and sheds in Zone 2, provided they are not prohibited under local water supply ordinance less than or equal to 150 square feet per lot		X	
Total footprint gazebos and sheds in Zone 2, provided they are not prohibited under local water supply ordinance of more than 150 square feet per lot			X
Wooden-slatted decks (and associated steps) that are at least 8 feet in height and vegetation is not removed from Zone 1 for the installation and that it meets the requirements of Items (7) and (8) of this Rule		X	
Wooden-slatted decks (and associated steps) that are not at least 8 feet in height or vegetation is removed from Zone 1 for the installation and that it meets the requirements of Items (7) and (8) of this Rule			X
Removal of previous fill or debris provided that diffuse flow is maintained and vegetation is restored	X		

Use	Exempt	Potentially Allowable	Potentially Allowable with Mitigation
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 impacts other than crossings of streams and other surface waters subject to this Rule			X
Road 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 2 if diffuse flow of discharge is provided into Zone 1 Wet detention, bioretention, and constructed wetlands in Zone 1		 X 	 X
Scientific studies and stream gauging: • In Zones 1 and 2 if they are designed, constructed and maintained to protect water quality to the maximum extent practical.	 X		
Streambank or shoreline stabilization		X	
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 the tree planting may occur during the dormant season. A one time application of fertilizer may be utilized to establish vegetation. At the end of five years the restored buffer shall comply with the restoration criteria in Item (9) of Rule 15A NCAC 02B .0252: Less than or equal to 2,500 square feet of buffer disturbance Greater than 2,500 square feet of buffer disturbance Associated with culvert installation, bridge construction or replacement	 X 	 X 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 (9) of Rule 15A NCAC 02B .0252: In Zone 2 only provided ground cover is established within the timeframes required by the Sedimentation and Erosion Control Act and that the vegetation in Zone 1 is not compromised and that discharge is released as diffuse flow in accordance with Item (8) of this Rule In Zones 1 and 2 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 In-stream temporary erosion and sediment control measures for work within a stream channel that is authorized under Section 401	 X X X		

Use	Exempt	Potentially Allowable	Potentially Allowable with Mitigation
and 404 of the Federal Water Pollution Control Act			
In-stream temporary erosion and sediment control measures for authorized work within a stream channel		X	
Utility- Non-electric utility lines:			
Impacts other than perpendicular crossings in Zone 2 only[4, 5]		X	
Impacts other than perpendicular crossings in Zone 1 only[4, 5]			X
Utility-Non-electric utility line perpendicular crossings of streams and other surface waters subject to this Rule[4, 5]:			
Perpendicular crossings that 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		
Perpendicular crossings that disturb equal to or less than 40 linear feet of riparian buffer with a maintenance corridor greater than 10 feet in width		X	
Perpendicular crossings that 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	
Perpendicular crossings that 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
Perpendicular crossings that disturb greater than 150 linear feet of riparian buffer			X
Utility-Overhead electric utility lines:			
•Impacts other than perpendicular crossings in Zone 2 only[4, 5]		X	
•Impacts other than perpendicular crossings in Zone 1 [2,3,4, 5]			X
Utility-Overhead electric utility line perpendicular crossings of streams and other surface waters subject to this Rule [2, 3,4, 5]:			
•Perpendicular crossings that disturb equal to or less than 150 linear feet of riparian buffer	X		
•Perpendicular crossings that disturb greater than 150 linear feet of riparian buffer		X	
Utility-Underground electric utility lines:			
•Impacts other than perpendicular crossings in Zone 2 only[2]	X		
•Impacts other than perpendicular crossings in Zone 1[1,4]	X		
Utility-Underground electric utility line perpendicular crossings of streams and other surface waters subject to this Rule:			
•Perpendicular crossings that disturb less than or equal to 40 linear feet of riparian buffer[3, 4, 5]	X		
•Perpendicular crossings that disturb greater than 40 linear feet of riparian buffer[3, 4, 5]		X	
Vegetation management:			
Emergency fire control measures provided that topography is restored	X		
Periodic mowing and harvesting of plant products in Zone 2 only	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 which are in danger of causing damage to dwellings, other structures or human life	X		
Removal of individual trees that are dead, diseased or damaged.			
Removal of poison ivy	X		
Removal of understory nuisance vegetation as defined in:	X		

Use	Exempt	Potentially Allowable	Potentially Allowable with Mitigation
Smith, Cherri L. 1998. Exotic Plant Guidelines. Dept. of Environment and Natural Resources. Division of Parks and Recreation. Raleigh, NC. Guideline #30	X		
Vehicle access to water dependent structures 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 a minimum practicable width not exceeding ten feet		X	
Water dependent structures as defined in 15A NCAC 02B .0202		X	
Water supply reservoirs: •New reservoirs provided that a riparian buffer that meets the requirements of Items (7) and (8) of this Rule is established adjacent to the reservoir •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	X
Water wells Single family water wells All water wells other than single family water wells	 X	 X	
Wetland stream and buffer restoration Wetland, stream and buffer restoration that requires DWQ approval for the use of a 401 Water Quality Certification Wetland, stream and buffer restoration that does NOT require DWQ approval for the use of a 401 Water Quality Certification	 X	 X	
Wildlife passage structures		X	

[1] Provided that:

- Heavy equipment is not used in Zone 1
- Vegetation is not compromised in the portions of Zone 1 and Zone 2 that are not impacted
- Trees that are cut down are removed by chain
- No permanent felling of trees occurs in the protected buffers or in the streams
- Stump removal is performed only by grinding
- At the completion of the project the disturbed area is stabilized with native vegetation
- Zones 1 & 2 meet the requirements of (7) and (8) of this Rule.

[2] Provided that, in Zone 1, 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, or the Director for the cases involving activities listed in Item (3) 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 towers shall not be installed within 10 feet of a water body unless the local government or the Director for the cases involving activities listed in Item (3) of this Rule completes a no practical alternative evaluation as defined in Item (11) of this Rule.

[4] Provided that, in Zone 1, 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 or the Director for the cases involving activities listed in Item (3) of this Rule, 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.
- 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.

[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 as exempt, potentially allowable, and potentially allowable with mitigation in Item (9) of this Rule shall have the following requirements:

(a) EXEMPT. Uses designated as exempt are allowed within the riparian buffer. 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. In addition, exempt uses shall meet requirements listed in Item (9) of this Rule for the specific use;

(b) POTENTIALLY ALLOWABLE. Uses designated as potentially allowable require a written buffer authorization from the local government, or the Director for the cases involving activities listed in Item (3) of this Rule for impacts within the riparian buffer provided that there are no practical alternatives to the requested use pursuant to Item (11) of this Rule;

(c) POTENTIALLY ALLOWABLE WITH MITIGATION. Uses designated as potentially allowable with mitigation require written authorization from the local government, or the Director for the cases involving activities listed in Item (3) of this Rule for impacts within the riparian buffer 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 (15) of this Rule; and

(d) PROHIBITED. Uses that are not designated in Item (9) of this Rule are considered prohibited in the riparian buffers.

(11) DETERMINATION OF "NO PRACTICAL ALTERNATIVES." 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 or the Director for the cases involving activities listed in Item (3) of this Rule. The applicant shall certify that the criteria identified in Sub-Item (a) of this Item are met. The local government, or the Director for the cases involving activities listed in Item (3) of this Rule, shall grant an Authorization Certificate upon a "no practical alternatives" determination. The procedure for making an Authorization Certificate shall be as follows:

(a) For any request for an Authorization Certificate, the local government, or the Director for the cases involving activities listed in Item (3) of this Rule, shall review the entire project and make a finding of fact as to whether the following requirements have been met in support of a "no practical alternatives" determination:

(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 required to minimize disturbance, preserve aquatic life and habitat, and protect water quality;

(b) Requests for an Authorization Certificate shall be reviewed and either approved or denied within 60 days of receipt of a complete submission based on the criteria in Sub-Item (a) of this Item and the local ordinance or ordinances enforcing this Rule by the local government, or the Director for the cases involving activities listed in Item (3) of this Rule. Failure to issue an approval or denial within 60 days shall constitute that the applicant has demonstrated "no practical alternatives." An Authorization Certificate shall be issued to the applicant, unless:

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

(ii) Applicant fails to furnish requested information necessary to the local government's decision or the Director's decision for the cases involving activities listed in Item (3) of this Rule;

(c) The local government, or the Director for the cases involving activities listed in Item (3) of this Rule, may attach conditions to the Authorization Certificate that support the purpose, spirit and intent of the riparian buffer protection program. Complete submissions shall include the following:

(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: and

(d) Any disputes over determinations regarding Authorization Certificates shall be referred to the local government's appeals process for a decision, or to the Director for determinations involving lands of activities listed in Item (3) of this Rule. 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 only 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) There are practical difficulties or unnecessary hardships that prevent compliance with the riparian buffer protection requirements. Practical difficulties or unnecessary hardships shall be evaluated in accordance with all of the following:

(i) If the applicant complies with the provisions of this Rule, he or she can secure no reasonable return from, nor make reasonable use of, his or 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, or the Director for the cases involving activities listed in Item (3) of this Rule, 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, and is unique to the applicant's property rather than the result of conditions that are widespread. If other properties are equally subject to the hardship created in the restriction, then granting a variance would be a special privilege denied to others, and would not promote equal justice; and

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

(b) 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) In granting the variance, the public safety and welfare have been assured, water quality has been protected, and substantial justice has been done.

(13) MINOR VARIANCES. A minor variance request pertains to activities that are proposed to impact only Zone 2 or any portion of Zone 2 of the riparian buffer. Minor variance requests shall be reviewed and approved based on the criteria in Sub-Item (12)(a) 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 government shall be made through the local government's appeals process, or to the Director for determinations involving activities listed in Item (3) of this Rule. The Director's decision is subject to review as provided in G.S. 150B Articles 3 and 4.

(14) MAJOR VARIANCES. A major variance request pertains to activities that are proposed to impact any portion of Zone 1 of the riparian buffer. If the local government, or the Director for the cases involving activities listed in Item (3) of this Rule, has determined that a major variance request meets the requirements in Sub-Item (12)(a) 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, or the Director for the cases involving activities listed in Item (3) of this Rule, the Commission shall review preliminary findings on major variance requests. The Commission may choose to approve, approve with conditions, or deny the major variance.

(15) 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 .0252.

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

(a) The following measures shall apply in the entire riparian buffer:

(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 water body;

(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 or other timber cutting techniques necessary to prevent or control extensive 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 15A NCAC 01I .0100-.0209. The Division of Forest Resources must notify the local government 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. Plantings shall consist primarily of native species;

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

(x) Application of fertilizer shall not be allowed except as a one-time use that is necessary for permanent stabilization; and

(xi) Broadcast application of fertilizer or herbicides 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 1, 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 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. 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 practices guidelines for water quality as defined in Rule 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: and

(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 1 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 (9) of this Rule.

(ii) In the outer 20 feet of Zone 1, 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 2, harvesting and regeneration of the forest stand shall be allowed in accordance with 15A NCAC 01I .0100 through .0209 as enforced by the Division of Forest Resources.

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

(a) For activities listed in Item (3) of this Rule, the Division shall implement the requirements of this Rule as of its effective date;

(b) Within six months of the effective revision date of this Rule, local governments shall review, revise as necessary, and submit a local program including all necessary ordinances to the Division for review. The local program shall detail local government buffer program implementation including but not limited to such factors as a method for resolution of disputes involving Authorization Certificate or variance determinations, a plan for record keeping, and a plan for enforcement. Local governments shall use the Division's publication, *Identification Methods for the Origins of Intermittent and Perennial Streams, v 3.1 February 28, 2005* available at http://portal.ncdenr.org/web/wq/swp/ws/401/waterresources/streamdeterminations to establish the existence of streams;

(c) Within six months of the Division approval of the revised local ordinance, the local government shall implement their revised buffer program;

(d) Upon implementation, subject local governments shall submit annual reports to the Division summarizing their activities in implementing each of the requirements in Item (4) of this Rule;

(e) The Division shall regularly audit local programs to ensure rule implementation; and

(f) 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.

(18) Where the standards and management requirements for riparian areas are in conflict with other laws, regulations, and permits regarding streams, steep slopes, erodible soils, wetlands, floodplains, forest harvesting, surface mining, land disturbance activities, or other environmental protection areas, the more restrictive shall apply.

(19) The existing water supply requirement in Rule .0216(3)(b) of this Section that stipulates a 100 foot vegetated buffer, adjacent to perennial streams, for all new development activities which utilize the high density option, applies to the entire Randleman Lake watershed. The first 50 feet of these riparian areas on either side of these waters must also be protected in accordance with all the requirements of this Rule.

(20) 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 regulations and laws.

History Note: Authority G.S. 143-214.1; 143-214.5; 143-215.3(a)(1); Eff. April 1, 1999; Amended Eff. June 1, 2010.

1.8 - Goose Creek Watershed Riparian Buffer Rules

Only certain sections of the Goose Creek rules are cited here. These sections are believed to be the most frequently applicable rules related to forestry activities. The full set of rules is contained within 15A NCAC 02B .0600 through .0609.

15A NCAC 02B .0601 SITE SPECIFIC WATER QUALITY MANAGEMENT PLAN FOR THE GOOSE CREEK WATERSHED (YADKIN PEE-DEE RIVER BASIN): PURPOSE

The Goose Creek watershed in the Yadkin Pee-Dee River Basin provides habitat for an aquatic animal species that is listed as federally endangered by the U.S. Fish and Wildlife Service under the provisions of the Endangered Species Act, 16 U.S.C. 1531-1544. Maintenance and recovery of the water quality conditions required to sustain and recover the federally-listed endangered species thereby protects the biological integrity of the waters. The Goose Creek watershed, which includes Goose Creek (Index # 13-17-18), Stevens Creek (Index # 13-17-18-1), Paddle Branch (Index # 13-17-18-2), Duck Creek (Index # 13-17-18-3) and all tributaries, shall be protected by the site-specific management strategy described in Rules .0601 through .0609 of this Section.

The purpose of the actions required by this site-specific management strategy is for the maintenance and recovery of the water quality conditions required to sustain and recover the federally endangered Carolina heelsplitter (Lasmigona decorata) species. Management of the streamside zones to stabilize streambanks and prevent sedimentation are critical measures to restore water quality to sustain and enable recovery of the federally endangered Carolina heelsplitter. Site-specific management strategies shall be implemented to:

(1) control stormwater for projects disturbing one acre or more of land as described in Rule .0602,

(2) control wastewater discharges as described in Rule .0603,

(3) control toxicity to streams supporting the Carolina heelsplitter as described in Rule .0604, and

(4) maintain riparian buffers as described in Rules .0605 through .0609.

History Note: Authority G.S. 143-214.1; 143-215.3(a)(1); 143-215.8A; Eff. January 1, 2009.

15A NCAC 02B .0605 SITE SPECIFIC WATER QUALITY MANAGEMENT PLAN FOR THE GOOSE CREEK WATERSHED (YADKIN PEE-DEE RIVER BASIN): RIPARIAN BUFFER WIDTHS

In this watershed, undisturbed 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 Division of Emergency Management. Within the buffer areas that are regulated by this Rule, redevelopment is allowed for residential structures and redevelopment of non-residential structures is allowed provided that less than an additional half acre is disturbed during the redevelopment activity for non-residential structures. Redevelopment is defined in 15A NCAC 02H .1002(14). Exceptions to undisturbed forested riparian buffer requirements are set forth in Rule .0607 of this Section. Activities shall require stormwater control as required by Rule .0602 of this Section.

History Note: Authority G.S. 143-214.1; 143-215.3(a)(1); 143-215.8A; Eff. January 1, 2009.

15A NCAC 02B .0607 SITE SPECIFIC WATER QUALITY MANAGEMENT PLAN FOR THE GOOSE CREEK WATERSHED (YADKIN PEE-DEE RIVER BASIN): BUFFER TYPES AND MANAGING ACTIVITIES WITHIN RIPARIAN BUFFERS

(a) RIPARIAN BUFFER. The protected riparian buffer shall consist of an area that is undisturbed except for uses provided for in the table in this Rule. A waterbody shall be considered to be present if the feature is shown as described in the applicability paragraph of 15A NCAC 02B .0233 (3) and 02B .0233(3)(a)(i)-(iii). The location of the riparian buffer shall be as follows:

(1) 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 surface water, measured horizontally on a line perpendicular to the surface water.

(2) For ponds, lakes and reservoirs located within a natural drainage way, the riparian buffer shall begin at the most landward limit of the normal water level or the rooted herbaceous vegetation and extend landward, measured horizontally on a line perpendicular to the surface water.

(b) EXEMPTION WHEN USES ARE PRESENT AND ONGOING. The buffer requirements in this Rule do not apply to portions of the riparian buffer where a use is existing and ongoing. Only the portion of the riparian buffer that contains the footprint of the existing and ongoing use is exempt. The determination of whether a use is existing and ongoing shall be made by the Division of Water Quality. A use is existing and ongoing when it is a completed and maintained activity, an activity with appropriate valid permits, or an activity with documentation for unexpired vested rights, as described below:

(1) A use that was present within the riparian buffer as of the effective date of this Rule and has continued 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. 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 the buffer area where it did not exist as of the effective date of this Rule and existing diffuse flow is maintained.

(2) A use that can be documented to the Division of Water Quality that meets at least one of the following criteria:

(A) Project requires a 401 Certification/404 Permit, issued prior to the effective date of this Rule and are still valid;

(B) Project requires a state permit, such as a landfill, NPDES wastewater discharge, land application residuals and road construction activities, and has begun construction or is under contract to begin construction and has received all required state permits prior to the effective date of this Rule;

(C) Project is being reviewed through the Clean Water Act Section 404/National Environmental Policy Act Merger 01 Process or Safe Accountable Flexible Efficient Transportation Equity Act; a Legacy for Users (published by the US Army Corps of Engineers and Federal Highway Administration, 2003) or its immediate successor and that have reached agreement with Department of Environment and Natural Resources on avoidance and minimization by the effective date of this Rule; or

(D) Project is not required to be reviewed by the Clean Water Act Section 404/National Environmental Policy Act Merger 01 Process or Safe Accountable Flexible Efficient Transportation Equity Act; a Legacy for Users (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 Division of Water Quality prior to the effective date of this Rule.

(3) At the time an existing use is changed to another use, the buffer requirement of this Rule shall apply. Change of use includes the following:

(A) To add impervious surface within the riparian buffer;

(B) An agricultural operation within the riparian buffer is converted to a non-agricultural; or

(C) a lawn within the riparian buffer ceases to be maintained.

(c) DIFFUSE FLOW REQUIREMENT. Diffuse flow of runoff shall be maintained in the riparian buffer by dispersing concentrated flow and reestablishing vegetation, as follows:

(1) Concentrated runoff from new ditches or manmade conveyances shall be converted to diffuse flow before the runoff enters the riparian buffer; and

(2) Periodic corrective action to restore diffuse flow shall be taken if necessary to impede the formation of erosion gullies.

(d) REQUIREMENTS FOR CATEGORIES OF USES AND MITIGATION. Uses designated as exempt, potentially allowable, and prohibited location in the chart of uses in this Rule shall have the following requirements:

(1) EXEMPT. Uses designated as exempt are allowed within the riparian buffer. Exempt uses shall be designed, constructed and maintained to minimize soil disturbance and to provide the maximum water quality protection practicable. In addition, exempt uses shall meet requirements listed in the table of this Rule for the specific use.

(2) POTENTIALLY ALLOWABLE. Uses designated as potentially allowable may proceed within the riparian buffer provided that there are no practical alternatives to the requested use pursuant to this Rule. These uses require written authorization from the Division of Water Quality. Some of these uses require mitigation, as indicated in the chart in this Rule.

(3) PROHIBITED. Uses designated as prohibited or not included in this table may not proceed within the riparian buffer unless a variance is granted pursuant to Rule .0606. Site-specific mitigation may be required as one condition of a variance approval.

(4) MITIGATION. Persons who wish to undertake uses designated as allowable with mitigation shall obtain approval for a mitigation proposal pursuant to 15A NCAC 02B .0609.

(e) DETERMINATION OF "NO PRACTICAL ALTERNATIVES." Persons who wish to undertake uses designated as potentially allowable shall submit a request for a "no practical alternatives" determination to the Division of Water Quality. The applicant shall certify that the criteria identified in Subparagraph (e)(1) of this Rule are met. The Division shall grant an Authorization Certificate upon a "no practical alternatives" determination. The procedure for making an Authorization Certificate shall be as follows:

(1) For any request for an Authorization Certificate, the Division shall review the entire project and make a finding of fact as to whether the following requirements have been met in support of a "no practical alternatives" determination:

(A) 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.

(B) 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.

(C) Plans for practices shall be used if necessary to minimize disturbance, preserve aquatic life and habitat, and protect water quality.

(D) The Division of Water Quality must consider the impacts that may affect conditions required to sustain and recover the federally endangered Carolin heelsplitter (*Lasmigona decorata*).

(2) Requests for an Authorization Certificate shall be either approved or denied within 60 days of receipt of a complete submission based on the criteria in Subparagraph (e)(1) of this Rule by the Division. Failure to issue an approval or denial within 60 days shall constitute that the applicant has demonstrated "no practical alternatives." The Division of Water Quality may attach conditions to the Authorization Certificate that support the purpose, spirit and intent of the riparian buffer protection program. Complete submissions shall include the following:

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

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

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

(D) 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;

(E) 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

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

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

(f) DELEGATION OF AUTHORITY FOR THE PROTECTION AND MAINTENANCE OF EXISTING RIPARIAN BUFFERS. The Commission shall grant and rescind local government delegation of the Riparian Buffer Protection requirements according to the following procedures:

(1) Local governments within the Goose Creek Watershed may submit a written request to the Commission for authority to implement and enforce the State's riparian buffer protection requirements within their jurisdiction. The written request shall be accompanied by information that shows:

(A) The local government has land use jurisdiction for the riparian buffer demonstrated by delineating the local land use jurisdictional boundary on USGS 1:24,000 topographical map(s) or other finer scale map(s);

(B) The local government has the administrative organization, staff, legal authority, financial and other resources necessary to implement and enforce the State's riparian buffer protection requirements based on its size and projected amount of development;

(C) The local government has adopted ordinances, resolutions, or regulations necessary to establish and maintain the State's riparian buffer protection requirements; and

(D) The local government has provided a plan to address violations with civil or criminal remedies and actions as well as remedies that shall restore buffer functions on violation sites and provide a deterrent against the occurrence of future violations.

(2) Within 90 days after the Commission has received the request for delegation, the Commission shall approve the request if the local government has complied with all of Subparagraph (f)(1) of this Rule and notify the local government whether it has been approved, approved with modifications, or denied.

(3) The Commission, upon determination that a delegated local authority is failing to implement or enforce the riparian buffer protection requirements in keeping with an approved delegation, shall notify the delegated local authority in writing of the local program's inadequacies. If the delegated local authority has not corrected the deficiencies within 90 days of receipt of the written notification, then the Commission shall rescind the delegation of authority to the local government and shall implement and enforce the State's riparian buffer protection requirements.

(g) APPOINTMENT OF A RIPARIAN BUFFER PROTECTION ADMINISTRATOR. Upon receiving delegation, local governments shall appoint a Riparian Buffer Protection Administrator who shall coordinate the implementation and enforcement of the program. The Administrator shall attend an initial training session by the Division of Water Quality and subsequent annual training sessions. The Administrator shall ensure that local government staffs working directly with the program receive training to understand, implement and enforce the program.

(h) PROCEDURES FOR USES WITHIN RIPARIAN BUFFERS THAT ARE ALLOWABLE AND ALLOWABLE WITH MITIGATION.

(1) Upon receiving delegation, local authorities shall review proposed uses within the riparian buffer and issue approvals if the uses meet the riparian buffer protection requirements.

(2) Delegated local authorities shall issue an Authorization Certificate for uses if the proposed use meets the requirements including provisions for mitigation set forth in Rule .0609.

(3) The Division of Water Quality may challenge a decision made by a delegated local authority for a period of 30 days after the Authorization Certificate is issued. If the Division of Water Quality does not challenge an Authorization Certificate within 30 days of issuance, then the delegated local authority's decision shall stand.

(i) VARIANCES. After receiving delegation, local governments shall review variance requests and make recommendations to the Commission for approval.

(j) LIMITS OF DELEGATED LOCAL AUTHORITY. The Commission has jurisdiction to the exclusion of local governments to implement the requirements of this Rule for the following types of activities:

(1) Activities undertaken by the State;

(2) Activities undertaken by the United States;

(3) Activities undertaken by multiple jurisdictions; and

(4) Activities undertaken by local units of government.

(k) RECORD-KEEPING REQUIREMENTS. Delegated local authorities shall maintain on-site records for a minimum of five years. Delegated local authorities must furnish a copy of these records to the Director within 30 days of receipt of a written request for the records. The Division of the Water Quality shall inspect local riparian buffer protection programs to ensure that the programs are being implemented and enforced. Each delegated local authority's records shall include the following:

(1) A copy of variance requests;

(2) The variance request's finding of fact;

(3) The result of the variance proceedings;

(4) A record of complaints and action taken as a result of the complaint;

(5) Records for stream origin calls and stream ratings; and

(6) Copies of request for authorization, records approving authorization and Authorization Certificates.

(l) Riparian buffers along surface waters in this watershed shall be maintained. Some uses within riparian buffers are exempt and some uses are potentially allowable. Any exempt or potentially allowed use shall require stormwater control as outlined in Rule .0602 if the one acre threshold is met. The following chart sets out the uses and their designation under this Rule as exempt, potentially allowable requiring DWQ approval or potentially allowable requiring both DWQ approval and mitigation, or prohibited as described above. The United States Environmental Protection Agency Endangered Species Protection Program at www.epa.gov/espp and NC Pesticide Board regulates pesticide application (see rules at 02 NCAC 09L .2201 through .2203).

	Exempt	Potentially allowable requiring DWQ approval or Potentially allowable requiring both DWQ approval and mitigation* *Note: the asterisk (X*) identifies those uses that require both DWQ approval and mitigation.*	Prohibited
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		X X*	
Archaeological activities	X		
Bridges		X	
Dam maintenance activities	X		
Drainage ditches, roadside ditches and stormwater outfalls through riparian buffers: Existing drainage ditches, roadside ditches, and stormwater outfalls provided that they are managed to minimize the sediment, nutrients including ammonia and other pollution that convey to waterbodies New drainage ditches, roadside ditches and stormwater outfalls provided that a stormwater management facility is installed to minimize the sediment, nutrients including ammonia and other pollution and attenuate flow before the conveyance discharges through the riparian buffer New drainage ditches, roadside ditches and stormwater outfalls that do not minimize the sediment, nutrients including ammonia and other pollution and attenuate flow before discharging through the riparian buffer Excavation of the streambed in order to bring it to the same elevation as the invert of a ditch	X	X	X X
Drainage of a pond in a natural drainage way provided that a new riparian buffer that meets the diffuse flow requirements 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 in	X		

width and are perpendicular [3] ▪ Driveway crossings on single family residential lots that disturb greater than 25 linear feet in width and are perpendicular[3] ▪ In a subdivision that cumulatively disturbs equal to or less than 150 linear feet in width and are perpendicular ▪ In a subdivision that cumulatively disturbs greater than 150 linear feet in width and are perpendicular		X X X*	
Fences provided that disturbance is minimized and installation does not result in removal of forest vegetation	X		
Forest harvesting – see Rule .0608			
Fertilizer application: ▪ One-time fertilizer application at agronomic rates to establish replanted vegetation ▪ Ongoing fertilizer application	X		X
Greenway/hiking trails		X	
Historic preservation	X		
Landfills as defined by G.S. 130A-290			X
Mining activities: ▪ Mining activities that are covered by the Mining Act provided that new riparian buffers that meet the diffuse flow requirements 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 diffuse flow requirements of this Rule are not established adjacent to the relocated channels ▪ Wastewater or mining dewatering wells with approved NPDES permit		X X* X	
Non-electric utility lines with impacts other than perpendicular crossings[3] • If activity is within 50 feet of the stream • If activity is outside of the inner 50 feet nearest the stream • Wastewater collection system utility lines and lift station lines may impact the riparian zone if both gravity and force main collections systems are made of ductile iron and 50% of the collection system is cleaned annually. • Lift Stations require Supervisory Control and Data Acquisition System (SCADA), telemetry, audio and visual alarms, signage with emergency contact, daily visitation (365 days/year), and documentation must be maintained for 3 years of all of the above and available upon request [note: this requirement also applies to collection system perpendicular crossings, detailed below.]		X* X X* X*	

• Non-electric utility line perpendicular crossing of streams and other surface waters subject to this Rule that are not collection systems[3]: • Perpendicular crossings that 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 • Perpendicular crossings that disturb equal to or less than 40 linear feet of riparian buffer with a maintenance corridor greater than 10 feet in width • Perpendicular crossings that 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 • Perpendicular crossings that 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 • Perpendicular crossings that disturb greater than 150 linear feet of riparian buffer Non-electric perpendicular utility line crossings that are collections systems as defined in Rule 15A NCAC 02T .0300 (note: must follow constraints listed under wastewater collection system utility lines and lift stations, above): • That use any of the following installation methods to minimize the sediment, nutrient and other pollution through the riparian buffer: underground directional boring methods, bore-and-jack techniques or another appropriate microtunnelling method. • That does not minimize the sediment, nutrient and other pollution through the riparian buffer by the most appropriate exempt method.	X	X X X* X* X	X
On-site sanitary sewage systems - new ones that use ground absorption			X
Overhead electric utility lines[1,2,3]: • Stream crossings that disturb equal to or less than 150 linear feet of riparian buffer • Stream crossings that disturb greater than 150 linear feet of riparian buffer	X	X*	
Periodic maintenance of modified natural streams such as canals and a grassed travelway on one side of the surface water when alternative forms of maintenance access are not		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 in natural drainage ways, excluding dry ponds: • New ponds provided that a riparian buffer that meets the diffuse flow requirements of this Rule is established adjacent to the pond • New ponds where a riparian buffer that meets the diffuse flow requirements of this Rule is NOT established adjacent to the pond		X	X
Protection of existing structures, facilities and streambanks		X	

when this requires additional disturbance of the riparian buffer or the stream channel			
Railroad impacts other than crossings of streams and other surface waters subject to this Rule			X
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 of riparian buffer • Railroad crossings that impact greater than 150 linear feet of riparian buffer	X	X	X
Removal of previous fill or debris provided that diffuse flow is maintained and any vegetation removed 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 and is perpendicular • Road crossings that impact greater than 40 linear feet but equal to or less than 150 linear feet and is perpendicular • Road crossings that impact greater than 150 linear feet of riparian buffer	X	X X*	
Scientific studies and stream gauging	X		
Stormwater management ponds excluding dry ponds: • New stormwater management ponds provided that a riparian buffer that meets the diffuse flow requirements of this Rule is established adjacent to the pond • New stormwater management ponds where a riparian buffer that meets the diffuse flow requirements of this Rule is NOT established adjacent to the pond		X	X
Stream restoration	X		
Streambank stabilization		X	
Temporary roads: • Temporary roads that disturb less than or equal to 2,500 square feet provided that vegetation is restored within six months of initial disturbance • Temporary roads that disturb greater than 2,500 square feet provided that vegetation is restored within six months of initial disturbance • Temporary roads used for bridge construction or replacement provided that restoration activities, such as soil stabilization and revegetation, are conducted immediately after construction	X	X X	
Temporary sediment and erosion control devices: • To control impacts associated with uses approved by the Division 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 • In-stream temporary erosion and sediment control measures for work within a stream channel	X	X	

Underground electric utility lines: Impacts other than perpendicular crossings [3,4]	X		
Underground electric utility line perpendicular crossings of streams and other surface waters subject to this Rule: • Perpendicular crossings that disturb less than or equal to 40 linear feet of riparian buffer[3,4] • Perpendicular crossings that disturb greater than 40 linear feet of riparian buffer[3,4]	X	X	
Vegetation management: • Emergency fire control measures provided that topography is restored • Planting vegetation to enhance the riparian buffer • Pruning forest vegetation provided that the health and function of the forest vegetation is not compromised • Removal of individual trees which are in danger of causing damage to dwellings, other structures or human life • Removal of poison ivy • Removal of understory nuisance vegetation as defined in: Smith, Cherri L. 1998. Exotic Plant Guidelines. Department of Environment and Natural Resources. Division of Parks and Recreation. Raleigh, NC. Guideline #30	X X X X X X		
Water dependent structures as defined in 15A NCAC 02B .0202		X	
Water wells	X		
Wetland restoration	X		

[1] Provided that 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 alternatives evaluation by the Division of Water Quality.

- 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.
- Rip rap 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.

[2] Provided that poles or towers shall not be installed within 10 feet of a water body unless the Division of Water Quality completes a no practical alternatives evaluation.

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

[4] Provided that 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 alternatives evaluation by the Division of Water Quality.

- 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.

- 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.

History Note: Authority G.S. 143-214.1; 143-215.8A; 143-214.7; Eff. February 1, 2009.

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) The following requirements shall apply for forest harvesting operations and practices in the riparian areas.

(1) Logging decks and sawmill sites shall not be placed in the riparian buffer.

(2) Access roads and skid trails are 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.

(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 Division of Forest Resources for a specific site in accordance with G.S. 113-60.4. A copy of the Division of Forest Resources approval must be provided to the Division of Water Quality in accordance with Session Law 2001-404.

(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 soil disturbance is minimized. Plantings shall consist primarily of native species.

(9) High intensity prescribed burns shall not be allowed.

(10) Application of fertilizer is not allowed except as necessary for permanent stabilization. Broadcast application of fertilizer or herbicides 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 the riparian buffer, 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 G.S. 277.6 or on forest lands that 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. For such forest lands, selective harvest is allowed in accordance with the following:

(1) Tracked or wheeled vehicles are not permitted within the first 50 feet the riparian buffer top of bank landward except at stream crossings designed, constructed and maintained in accordance with 15A NCAC 01I .0203.

(2) Soil disturbing site preparation activities are not allowed.

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

(4) The first 10 feet of the riparian buffer directly adjacent to the stream or waterbody shall be undisturbed.

(5) In the zone 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 .0233(e) 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.

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

History Note: Authority G.S. 143-214.1; 143-215.3(a)(1); 143-215.8A; Eff. February 1, 2009.

1.9 - Jordan Lake Watershed Riparian Buffer Rules

Only certain sections of the Jordan Lake rules are cited. These sections are believed to be the rules that are most frequently applicable to forestry activities. The full rules are codified within 15A NCAC .0262 through .0311.

15A NCAC 02B .0263 JORDAN WATER SUPPLY NUTRIENT STRATEGY: DEFINITIONS

The following words and phrases, which are not defined in G.S. 143, Article 21, shall be interpreted as follows for the purposes of the Jordan nutrient strategy:

(1) "Allocation" means the mass quantity of nitrogen or phosphorus that a discharger, group of dischargers, nonpoint source, or collection of nonpoint sources is assigned as part of a TMDL. For point sources, possession of allocation does not authorize the discharge of nutrients but is prerequisite to such authorization through a NPDES permit.

(2) "Applicator" means the same as defined in 15A NCAC 02B .0202(4).

(3) "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.

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

(5) "Delivered," as in delivered allocation, load, or limit, means the allocation, load, or limit that is measured or predicted at Jordan Reservoir. A delivered value is equivalent to a discharge value multiplied by the transport factor for that discharge location.

(6) "Development" means the same as defined in 15A NCAC 02B .0202(23).

(7) "Discharge," as in discharge allocation, load, or limit means the allocation, load, or limit that is measured at the point of discharge into surface waters in the Jordan watershed. A discharge value is equivalent to a delivered value divided by the transport factor for that discharge location.

(8) "Ditch or canal" means a man-made channel other than a modified natural stream constructed for drainage purposes that is typically dug through inter-stream divide areas. A ditch or canal may have flows that are perennial, intermittent, or ephemeral and may exhibit hydrological and biological characteristics similar to perennial or intermittent streams.

(9) "Ephemeral stream" means a feature that carries only stormwater in direct response to precipitation with water flowing only during and shortly after large precipitation events. An ephemeral stream may or may not have a well-defined channel, the aquatic bed is always above the 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.

(10) "Existing development" means development, other than that associated with agricultural or forest management activities, that meets one of the following criteria:

(a) It either is built or has established a vested right based on statutory or common law as interpreted by the courts, for projects that do not require a state permit, as of the effective date of either local new development stormwater programs implemented under 15A NCAC 02B .0265 or, for projects requiring a state permit, as of the applicable compliance date established in 15A NCAC 02B .0271(5) and (6); or

(b) It occurs after the compliance date set out in Sub-Item (4)(d) of Rule .0265 but does not result in a net increase in built-upon area.

(11) "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 water table. The flow may be heavily supplemented by stormwater runoff. An intermittent stream often lacks the biological and hydrological characteristics commonly associated with the continuous conveyance of water.

(12) "Jordan nutrient strategy," or "Jordan water supply nutrient strategy" means the set of 15A NCAC 02B .0262 through .0273 and .0311(p).

(13) "Jordan Reservoir" means the surface water impoundment operated by the US Army Corps of Engineers and named B. Everett Jordan Reservoir, as further delineated for purposes of the Jordan nutrient strategy in 15A NCAC 02B .0262(4).

(14) "Jordan watershed" means all lands and waters draining to B. Everett Jordan Reservoir.

(15) "Load" means the mass quantity of a nutrient or pollutant released into surface waters over a given time period. Loads may be expressed in terms of pounds per year and may be expressed as "delivered load" or an equivalent "discharge load."

(16) "Load allocation" means the same as set forth in federal regulations 40 CFR 130.2(g), which is incorporated herein by reference, including subsequent amendments and editions. These regulations may be obtained at no cost from http://www.epa.gov/lawsregs/search/40cfr.html or from the U.S. Government Printing Office, 732 North Capitol St. NW, Washington D.C., 20401.

(17) "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 the continuous conveyance of water.

(18) "New development" means any development project that does not meet the definition of existing development set out in this Rule.

(19) "Nitrogen" or "total nitrogen" means the sum of the organic, nitrate, nitrite, and ammonia forms of nitrogen in a water or wastewater.

(20) "NPDES" means National Pollutant Discharge Elimination System, and connotes the permitting process required for the operation of point source discharges in accordance with the requirements of Section 402 of the Federal Water Pollution Control Act, 33 U.S.C. Section 1251 et seq.

(21) "Nutrients" means total nitrogen and total phosphorus.

(22) "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 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.

(23) "Perennial waterbody" means a natural or man-made basin, including lakes, ponds, and reservoirs, that stores surface water permanently at depths sufficient to preclude growth of rooted plants. For the purpose of the State's riparian buffer protection program, the waterbody must be part of a natural drainage way (i.e., connected by surface flow to a stream).

(24) "Phosphorus" or "total phosphorus" means the sum of the orthophosphate, polyphosphate, and organic forms of phosphorus in a water or wastewater.

(25) "Stream" means a body of concentrated flowing water in a natural low area or natural channel on the land surface.

(26) "Surface waters" means all waters of the state as defined in G.S. 143-212 except underground waters.

(27) "Technical specialist" means the same as defined in 15A NCAC 06H .0102(9).

(28) "Total Maximum Daily Load," or "TMDL," means the same as set forth in federal regulations 40 CFR 130.2(i) and 130.7(c)(1), which are incorporated herein by reference, including subsequent amendments and editions. These regulations may be obtained at no cost from http://www.epa.gov/lawsregs/search/40cfr.html or from the U.S. Government Printing Office, 732 North Capitol St. NW, Washington D.C., 20401.

(29) "Total nitrogen" or "nitrogen" means the sum of the organic, nitrate, nitrite, and ammonia forms of nitrogen in a water or wastewater.

(30) "Total phosphorus" or "phosphorus" means the sum of the orthophosphate, polyphosphate, and organic forms of phosphorus in a water or wastewater.

(31) "Transport factor" means the fraction of a discharged nitrogen or phosphorus load that is delivered from the discharge point to Jordan Reservoir, as determined in an approved TMDL.

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

(33) "Wasteload" means the mass quantity of a nutrient or pollutant released into surface waters by a wastewater discharge over a given time period. Wasteloads may be expressed in terms of pounds per year and may be expressed as "delivered wasteload" or an equivalent "discharge wasteload."

(34) "Wasteload allocation" means the same as set forth in federal regulations 40 CFR 130.2(h), which is incorporated herein by reference, including subsequent amendments and editions. These regulations may be obtained at no cost from http://www.epa.gov/lawsregs/search/40cfr.html or from the U.S. Government Printing Office, 732 North Capitol St. NW, Washington D.C., 20401.

History Note: *Authority G.S. 143-214.1; 143-214.5; 143-214.7; 143-215.3(a)(1); 143-215.6A; 143-215.6B; 143-215.6C; 143 215.8B; 143B-282(c); 143B-282(d); S.L. 2001-355; S.L. 2005-190; S.L. 2006-259; Eff. August 11, 2009.*

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

(See S.L. 2009-216 and S.L. 2009-484)

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) The maps approved by the Commission as more accurate than those identified in Sub-Item (4)(c)(i) and (4)(c)(ii) of this Rule.

(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://h2o.enr.state.nc.us/ncwetlands/documents/NC_Stream_ID_Manual.pdf 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 effective date of this Rule 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 effective date of this Rule, 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 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 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 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 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; and

(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.

(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 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*
*** 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.**			
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	X		
• 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	
Airport facilities:			
• Airport facilities that impact equal to or less than 150 linear feet or one-third of an acre of riparian buffer		X	
• Airport facilities that impact greater than 150 linear feet or one-third of an acre of riparian buffer			X
• Activities necessary to comply with FAA requirements (e.g. radar uses or landing strips)[1]		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	X		
• 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	

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.	X		
• 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.		X	
• 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		X	
• 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
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	X		
• Driveway crossings on single family residential lots that disturb greater than 25 linear feet or 2,500 square feet of riparian buffer		X	
• In a subdivision that cumulatively disturb equal to or less than 150 linear feet or one-third of an acre of riparian buffer		X	
• In a subdivision that cumulatively disturb greater than 150 linear feet or one-third of an acre of riparian buffer			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	X		
• Fences provided that disturbance is minimized and installation results in removal of trees as defined in this Rule		X	
Forest harvesting - see Item (14) of this Rule			
Fertilizer application: one-time application to establish vegetation	X		
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	

Use	Exempt*	Allowable*	Allowable with Mitigation*
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		X	
• 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			X
• Wastewater or mining dewatering wells with approved NPDES permit	X		
Playground equipment:			
• Playground equipment on single family lots provided that installation and use does not result in removal of vegetation	X		
• Playground equipment installed on lands other than single-family lots or that requires removal of vegetation		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		X	
• 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
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
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	X		
• 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		X	
• Railroad crossings that impact greater than 150 linear feet or one-third of an acre of riparian buffer			X
Recreational and accessory structures in Zone Two:			
• Sheds and gazebos in Zone Two, provided they are not prohibited under local water supply ordinance:			
○ Total footprint less than or equal to 150 square feet per lot.		X	
○ Total footprint greater than 150 square feet per lot.			X
• Wooden slatted decks and associated steps, provided the use meets the requirements of Items (7) and (8) of this Rule:			
○ Deck at least eight feet in height and no vegetation removed from Zone One.		X	
○ Deck less than eight feet in height or vegetation removed from Zone One.			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	X		
• 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		X	
• Road crossings that impact greater than 150 linear feet or one-third of an acre of riparian buffer			X

Use	Exempt*	Allowable*	Allowable with Mitigation*
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		X	
• Greater than 2,500 square feet of buffer impact			X
Stormwater BMPs:			
• Wet detention, bioretention, and constructed wetlands in Zone Two if diffuse flow of discharge is provided into Zone One		X	
• Wet detention, bioretention, and constructed wetlands in Zone One			X
Scientific studies and stream gauging	X		
Streambank or shoreline stabilization		X	
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	

Use	Exempt*	Allowable*	Allowable with Mitigation*
Utility, electric, underground, other than perpendicular crossings[4]:			
• Impacts in Zone Two	X		
• Impacts in Zone One[1]	X		
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	
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	X		
• Wetland, stream and buffer restoration that does not require Division approval for the use of a 401 Water Quality Certification		X	

Use	Exempt*	Allowable*	Allowable with Mitigation*
Wildlife passage structures		X	

[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 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 GS150B 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 implement the requirements of this Rule as of its effective date;

(b) Within two months after the effective date of this Rule, the Division shall submit a model local riparian buffer protection ordinance that embodies the standards set out in this Rule and 15A NCAC 02B .0268 to the Commission for approval;

(c) Within six months after the Commission's approval of a model local buffer ordinance, local governments shall submit local programs to the Division for review based on the standards set out in this Rule and 15A NCAC 02B .0268. A local program shall also detail implementation including but not limited to such factors as a method for making variance determinations, a plan for record keeping, and a plan for enforcement. Local governments shall use the latest version of the Division's publication, Identification Methods for the Origins of Intermittent and Perennial Streams, available at http://h2o.enr.state.nc.us/ncwetlands/documents/NC_Stream_ID_Manual.pdf or at the 401/Wetlands Unit of the North Carolina Division of Water Quality at: Mail Service Center 1650, Raleigh, NC, 27699-1650, to establish the existence of streams;

(d) Within one year after the Commission's approval of a model local buffer ordinance, the Division shall provide recommendations to the Commission on local buffer programs. The Commission shall either approve the programs or require changes based on the standards set out in this Rule and 15A NCAC 02B .0268. Should the Commission require changes, the applicable local government shall have two months to submit revisions, and the Division shall provide follow-up recommendations to the Commission within two months after receiving revisions;

(e) Within two months after the Commission's approval of local buffer programs, local governments shall implement programs to ensure that existing land use activities and proposed development complies with local programs. 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;

(f) Upon implementation, local governments shall submit annual reports to the Division summarizing their activities in implementing the requirements of this Rule;

(g) 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

(h) 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.

History Note: Authority 143-214.1; 143-214.5; 143-214.7; 143-215.3(a)(1); 143-215.6A; 143-215.6B; 143-215.6C; 143 215.8B; 143B-282(c); 143B-282(d) S.L. 1999-329, s. 7.1.; S.L. 2005-190; S.L. 2006-259; Eff. August 11, 2009; See S.L. 2009-216 and S.L. 2009-484; Amended Eff. September 1, 2011.

1.10 - State Rules on Pesticide Application

Only certain sections of the rules are cited below. The full rule citation is codified under 02 NCAC 09L .0101 through .2203.

02 NCAC 09L .0503 PESTICIDE APPLICATORS

(a) The Commissioner shall require the licensing of at least one person at each business location who must be responsible for the application of pesticides for routine pest control situations.

(b) The person licensed as the pesticide applicator, if he personally is not directly involved in use of pesticides, shall supervise and guide the activities of all personnel applying pesticides from the business location of the licensee.

History Note: Authority G.S. 143-452; 143-453; 143-460(30); Eff. February 1, 1976.

02 NCAC 09L .0504 DEFINITIONS

The following definitions apply to 2 NCAC 9L .0505 -- Classifications, 2 NCAC 9L .0506 -- Governmental Workers, and 2 NCAC 9L .0507 -- Categories of Consultants:

(1) "Agricultural pest control":
  (a) Plant. Includes pesticide applicators using or supervising the use of pesticides in production of agricultural crops, including without limiting the foregoing, tobacco, peanuts, cotton, feed grains, soybeans and forage; vegetables; small fruits; tree fruits and nuts; as well as on grasslands and non-crop agricultural lands;
  (b) Animal. Includes pesticide applicators using or supervising the use of pesticides on animals, including without limiting the foregoing, beef cattle, dairy cattle, swine, sheep, horses, goats, poultry, and livestock, and to places on or in which animals are confined. Doctors of veterinary medicine engaged in the business of applying pesticides for hire, publicly holding themselves out as pesticide applicators or engaged in large-scale use of pesticides are included in this category.

(2) "Forest pest control" includes pesticide applicators using or supervising the use of pesticides in forests, forest nurseries, and forest seed-producing areas.

(3) "Ornamental and turf pest control" includes pesticide applicators using or supervising the use of pesticides to control pests in the maintenance and production of ornamental trees, shrubs, flowers, and turf.

(4) "Seed treatment" includes pesticide applicators using or supervising the use of pesticides on seeds.

(5) "Aquatic pest control" includes pesticide applicators using or supervising the use of any pesticide purposefully applied to standing or running water, excluding applicators engaged in public health related activities included in Category (7) of this Rule.

(6) "Right-of-way pest control" includes pesticide applicators using or supervising the use of pesticides in the maintenance of public roads, electric powerlines, pipelines, railway rights-of-way or other similar areas.

(7) "Public health pest control" includes primarily, but is not limited to, state, federal, or other governmental employees using or supervising the use of pesticides in public health programs for the management and control of pests having medical and public health importance.

(8) "Regulatory pest control" includes state, federal, or other governmental employees who use or supervise the use of pesticides in the control of regulated pests.

(9) "Demonstration and research pest control" includes the following:
  (a) individuals who demonstrate to the public the proper use and techniques of application of pesticides or supervise such demonstration; and
  (b) persons who, on conducting field research with pesticides, use or supervise the use of pesticides. Included in the first group are such persons as extension specialists and county agents, commercial representatives demonstrating pesticide products, and those individuals demonstrating methods used in public programs. The second group includes state, federal, commercial and other persons conducting field research on or utilizing pesticides.

(10) "Wood treatment" includes pesticide applicators using or supervising the use of restricted use pesticides in wood preservation and wood products treatment.

History Note: Authority G.S. 143-452(d); 143-460(29); 143-460(33); Eff. February 1, 1976; Amended Eff. November 1, 1984; August 1, 1982; October 27, 1979.

1.11 - Aerial Application of Pesticides

TAKE NOTE: In addition to the rules below, aerial application of pesticide may require that a Certificate of Coverage (CoC) be issued to the applicator under North Carolina Pesticide General Permit (PGP) number NCG560000 issued by the N.C. Division of Water Resources, under the National Pollutant Discharge Elimination System (NPDES). Refer to the NCDWR Website: http://portal.ncdenr.org/web/wq/swp/ps/npdes

02 NCAC 09L .1001 DEFINITIONS

All specific words or terms used in this Section shall have the same definitions as shown in the North Carolina Pesticide Law of 1971, G.S. 143-460, or unless the context otherwise requires, other definitions shall be:

(1) Agricultural Aircraft Operation. The operation of an aircraft for the purpose of dispensing any pesticide directly affecting agriculture, horticulture, forest preservation, or for any other pest control operation;

(2) Adverse Effect. Personal injury, damage to personal property, damage to real property, damage to the environment or any combination of these;

(3) Aircraft. A weight-carrying structure for navigation of the air that is supported either by its own buoyancy or by the dynamic action of the air against its surfaces; This shall include either fixed-wing or rotary-wing aircraft;

(4) Congested Areas. The same meaning as described in Federal Aviation Regulations (F.A.R.), Part 137;

(5) Contractor. Any person who owns or manages an aerial application business which is engaged in the custom application of pesticides;

(6) Custom Application. Any application of pesticides by aircraft for which service a payment is made;

(7) Drift. The airborne movement of pesticides resulting from the application of pesticides such as to carry the pesticides beyond the target area;

(8) Emergency. An occurrence which can impair public health, safety or result in injury, damage, or loss of life which calls for immediate action; An emergency may be minor or of such magnitude as to create a disaster;

(9) Environment. Water, air, land and all plants and man and other animals living therein and the interrelationships which exist among these;

(10) F.A.R.-137. Federal Aviation Regulations Volume VII, Part 137, as amended through September 10, 1980, relating to agricultural aircraft operations;

(11) Pilot. The person in control of the aircraft during the application of a pesticide;

(12) Registered Apiary--an apiary registered with the North Carolina Department of Agriculture;

(13) Respirator. A respirator or mask of a type that has been tested by the National Institute of Occupational Safety and Health and found to be satisfactory for protection against the particular pesticide being used;

(14) Spray Equipment. The equipment used for spraying liquid mixtures of pesticides in an agricultural aircraft operation;

(15) Target Area. Intended site of pesticide application;

(16) Toxicity Category I Pesticides. Any pesticide products which are required to display the signal word "Danger" prominently on the label.

History Note: Authority G.S. 143-458; 143-463; Eff. July 2, 1976; Amended Eff. January 1, 1985.

02 NCAC 09L .1002 GENERAL REQUIREMENTS

(a) All agricultural aircraft operations in North Carolina shall comply with the Federal Occupational Safety and Health Act of 1971 (OSHA), the North Carolina Occupational Safety and Health Law, all regulations promulgated thereunder and the Federal Aviation Regulations part 137. In any case of conflict, a provision of the aforenamed authorities takes precedence over any of these Rules.

(b) Each aerial application business shall have a licensed contractor. The contractor shall be responsible for the compliance of the business with the North Carolina Pesticide Law of 1971 and all regulations promulgated thereunder except where the responsibility is specifically designated to another person(s) by these Rules.

(c) All agricultural aircraft operations (pilot or contractor) shall keep a written record to be completed within 72 hours after each application. This requirement must be fulfilled sooner if requested by an employee of the Pesticide Section for the purposes of a pesticide incident investigation. The record shall show the following:

(1) name of contractor;
(2) name and address of the person for whom the pesticide was applied;
(3) identification of farm or land sites treated with pesticide(s);
(4) name of crop which was treated;
(5) total number of acres treated;
(6) the year, month, day, and approximate time the pesticide was applied;
(7) the brand name of the pesticide(s) and EPA registration number;
(8) amount of formulated product or active material applied per acre (must specify);
(9) total gallons or pounds per acre of the final tank mix applied per acre;
(10) name of pilot;
(11) signature of person completing this record.

(d) The pilot shall, prior to application, learn and confirm:
(1) the boundaries and exact location of the target area(s),
(2) the identity of nontarget areas and safety hazards located on or adjacent to the target areas.

(e) Spray and spreading equipment shall be thoroughly rinsed after each agricultural aircraft operation except when the next agricultural aircraft operation will be made using the same pesticide, or if another pesticide, one which by its manufacturer's recommendations is compatible with that previously in the equipment, and will not result in any adverse effects or illegal residues. Rinsing shall be conducted in an area where an environmental hazard will not be created by the drainage or disposal of waste materials and conducted with methods which will not create an environmental or human hazard.

(f) During application, the flow and mixture of the pesticide(s) shall be uniform. Pilots and contractors shall utilize equipment which will maintain a uniform mixture and flow during application.

(g) Pilots and contractors shall use and operate, in any agricultural aircraft operation, aircraft equipped with spray or spreading equipment suited, according to its manufacturer's recommendations for the pesticide(s) to be applied. All aerial spray or spreading equipment shall be free of leaks and shall have a positive shutoff system to prevent leaking and dissemination of pesticides on any nontarget areas over which the flight is made. Such equipment shall not allow spillage, dripping and backflow or create a hazard from vapors or drift.

(h) The loading area shall be kept reasonably free of pesticide contamination.

(i) No pesticide(s) shall be applied by an aerial applicator while any persons other than those assisting in the application are in the target area.

(j) The shape of the tank or hopper of the spray or spreading equipment shall be such as to allow complete drainage during flight and on ground.

(k) The contractor or pilot shall immediately notify the Secretary of the Board, or designated alternate, of any emergency or accidental release of pesticide(s) from the application or auxiliary equipment. They shall provide the following information:
(1) the name of the pilot,
(2) the contractor involved,
(3) the name of the property owner or operator,
(4) the location of the incident,
(5) the name of the pesticide,
(6) the estimated amount of pesticide involved,
(7) the estimated size of the area that received the spill,
(8) the description of what is located within 300 feet from the edge of the spill in all directions,
(9) the number of humans or animals known to have been contaminated,
(10) the weather conditions at the site of the emergency or accidental release of pesticide(s).

History Note: Authority G.S. 143-458; 143-463; 143-466; Eff. July 2, 1976; Amended Eff. February 1, 1989; January 1, 1985; August 1, 1982; March 1, 1981.

02 NCAC 09L .1003 DRIFT CONTROL

No person shall apply a pesticide(s) aerially under such conditions that drift from pesticide(s) particles or vapors results in adverse effect. As a minimum, the following precautions shall be taken:

(1) Fixed nozzles shall be spaced on the boom to afford a uniform spray pattern at the height the aircraft will be flown.

(2) All pesticides applied aerially as liquids, in liquid carriers, or as dusts shall be released within 15 feet above the canopy of the target, except where obstructions in or adjacent to the target would endanger the safety of the pilot while applying pesticides at that altitude.

(3) All pesticides applied aerially as dry granules or pellets shall be released within 40 feet above the canopy of the target, except where obstructions in or adjacent to the target would endanger the safety of the pilot while applying pesticides at that altitude.

(4) All applications of the following liquid pesticide formulations shall be made using a D4 or larger disk with a 46 whirlplate with the discharge directed with the airstream or not more than 10 degrees below the horizontal, and operated at a maximum pressure of 40 pounds per square inch, or a system producing a droplet size range not smaller than the above system, except for rotary-wing aircraft flying at speeds of 60 mph or less, in which case the nozzles may be directed downward:
   (a) phenoxy herbicides,
   (b) paraquat,
   (c) picloram (Tordon),
   (d) dicamba.
(5) Restricted use pesticides other than those specified in (4) of this Rule shall be applied as follows:
   (a) use a D4 or larger disk with a 45 whirlplate with the discharge directed with the airstream or not more than 10 degrees below the horizontal, and operated at a maximum pressure of 40 pounds per square inch; or
   (b) a system producing a droplet size range not smaller than the above system, except for rotary-wing aircraft flying at speeds of 60 mph or less, in which case the nozzles may be directed downward; or
   (c) use a boom with outside nozzles placed no closer to the wingtips than 12-1/2 percent of the total wingspan distance. If the length of the boom of the spraying equipment exceeds the nozzle span, a bleeder line shall be provided from the end of the boom to the last nozzle on the boom.

History Note: Authority G.S. 143-458; 143-463; Eff. July 2, 1976; Amended Eff. January 1, 1985.

02 NCAC 09L .1004 HANDLING AND LOADING OF PESTICIDES

(a) Pilots or employees handling or loading toxicity category I pesticides shall wear approved respirators. Filters and cartridges in respirators shall be changed according to the manufacturer's recommendation.
(b) Pilots or employees handling or loading toxicity category I pesticides shall wear freshly laundered protective clothing and shall bathe and change such clothing daily or sooner if the situation warrants.
(c) Pilots or employees handling or loading toxicity category I pesticides shall wear chemical-resistant gloves and boots or overshoes, in good condition.
(d) Aircraft cockpits shall be kept clean.
(e) If a toxicity category I pesticide contacts the skin of any person during any part of the agricultural aircraft operation, the person shall wash or be washed immediately, thoroughly with detergent and water and clothing replaced with clean clothing. Detergent and water adequate for personal washing shall be available at the pesticide loading site. They must also be available at any pesticide handling site which is separated geographically from the loading site.

History Note: Authority G.S. 143-458; 143-463; Eff. July 2, 1976; Amended Eff. January 1, 1985.

02 NCAC 09L .1005 RESTRICTED AREAS

(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.

History Note: Authority G.S. 143-458; Eff. July 2, 1976; Amended Eff. July 1, 1988; January 1, 1985; December 1, 1976.

1.12 - Petroleum and Hazardous Substances Spill Laws

NCGS 143 215.83 to 215.85 Oil Pollution and Hazardous Substances Control

NCGS Chapter 143, Part 2. Oil Discharge Controls.

§ 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. (1973, c. 534, s. 1; c. 1262, s. 23; 1979, c. 535, s. 14; 1987, c. 827, ss. 154, 192.)

§ 143-215.84. Removal of prohibited discharges.

(a) Person Discharging. - 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.

(b) Removal by Department. - Notwithstanding the requirements of subsection (a) 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 1251et 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. (1973, c. 534, s. 1; c. 1262, s. 23; 1975, c. 885; 1977, c. 771, s. 4; 1979, c. 535, s. 15; 1987, c. 827, ss. 154, 193; 1989, c. 656, s. 2; 1991, c. 538, s. 14; 1995, c. 377, s. 13; 1997-357, s. 7; 1997-394, s. 4; 1997-456, s. 50; 2001-384, s. 11.)

§ 143-215.85. Required notice.

(a) Except as provided in G.S. 143-215.94E(a1) and subsection (b) 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. (1973, c. 534, s. 1; c. 1262, s. 23; 1977, c. 771, s. 4; c. 858, s. 1; 1979, c. 535, ss. 16,17; 1987, c. 827, ss. 154, 194; 2000-54, s. 1.)

1.13 - Forestry Activities in Jurisdictional Wetlands and Waters

All waters as defined in federal rule codified under 33 CFR 328 are subject to the federal regulations related to silviculture as discussed in Chapter 6. As referenced in Chapter 6, included here are complete copies of several key information documents on the silviculture exemption to the Section 404 rules. These documents are of two types:

- Regulatory Guidance Letters (RGLs) are a USACE system to organize and track written guidance issued to its field agencies. RGLs are normally issued as a result of evolving policy, judicial decisions, and changes to the regulations which affect the permit program. RGLs are used only to interpret or clarify existing USACE Regulatory Program policy, but do provide mandatory guidance to the Corps district offices. Thus, RGLs have the same legal weight as the regulations. RGLs are sequentially numbered and expire on a specified date. However, unless superseded by specific provisions of subsequently issued regulations or RGLs, the guidance provided in RGL's generally remains valid after the expiration date. All current RGLs are available at: http://www.saw.usace.army.mil/wetlands/library.html.
- Memoranda to the Field are joint letters from USEPA and USACE regulatory program heads to respective field offices that provide clarification and interpretations of regulations and also have the same legal weight as regulations. As with RGLs, many earlier Memoranda to the Field were incorporated into revisions to the regulations. However, several key memoranda still are currently in force. Current Memoranda to the Field are available at: http://www.epa.gov/owow/wetlands/guidance/.

1.13.1 -- Definition of "Waters of the United States" (WOTUS)

NOTE: On June 29, 2015 the USEPA published a new rule that re-defines "waters of the United States". This new rule is effective on August 28, 2015. Key components of the rule are cited below for reference. The full rule text and background information are available from the USEPA website: http://www2.epa.gov/cleanwaterrule/documents-related-clean-water-rule

33 CFR Part 328: Definition of Waters of the United States
AUTHORITY: 33 U.S.C. 1344.

Section 328.1 - Purpose.

This section defines the term "waters of the United States" as it applies to the jurisdictional limits of the authority of the Corps of Engineers under the Clean Water Act. It prescribes the policy, practice, and procedures to be used in determining the extent of jurisdiction of the Corps of Engineers concerning "waters of the United States." The terminology used by Section 404 of the Clean Water Act includes "navigable waters" which is defined at Section 502(7) of the Act as "waters of the United States including the territorial seas." To provide clarity and to avoid confusion with other Corps of Engineer regulatory programs, the term "waters of the United States" is used throughout 33 CFR Parts 320-330. This section does not apply to authorities under the Rivers and Harbors Act of 1899 except that some of the same waters may be regulated under both statutes (see 33 CFR Parts 322 and 329).

Section 328.2 - General scope.

Waters of the United States include those waters listed in Section 328.3(a) below. The lateral limits of jurisdiction in those waters may be divided into three categories. The categories include the territorial seas, tidal waters, and non-tidal waters (see 33 CFR 328.4 (a), (b), and (c), respectively).

Section 328.3 - Definitions.
(a) For purposes of the Clean Water Act, 33 U.S.C. 1251 et seq. and its implementing regulations, subject to the exclusions in paragraph (b) of this section, the term ''waters of the United States'' means:

(1) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
(2) All interstate waters, including interstate wetlands;
(3) The territorial seas;
(4) All impoundments of waters otherwise identified as waters of the United States under this section;
(5) All tributaries, as defined in paragraph (c)(3) of this section, of waters identified in paragraphs (a)(1) through (3) of this section;
(6) All waters adjacent to a water identified in paragraphs (a)(1) through(5) of this section, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters;
(7) All waters in paragraphs (a)(7)(i) through (v) of this section where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section. The waters identified

in each of paragraphs (a)(7)(i) through (v) of this section are similarly situated and shall be combined, for purposes of a significant nexus analysis, in the watershed that drains to the nearest water identified in paragraphs (a)(1) through (3) of this section. Waters identified in this paragraph shall not be combined with waters identified in paragraph (a)(6) of this section when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (a)(6), they are an adjacent water and no case-specific significant nexus analysis is required.

(i) *Prairie potholes*. Prairie potholes are a complex of glacially formed wetlands, usually occurring in depressions that lack permanent natural outlets, located in the upper Midwest.

(ii) *Carolina bays and Delmarva bays*. Carolina bays and Delmarva bays are ponded, depressional wetlands that occur along the Atlantic coastal plain.

(iii) *Pocosins*. Pocosins are evergreen shrub and tree dominated wetlands found predominantly along the Central Atlantic coastal plain.

(iv) *Western vernal pools*. Western vernal pools are seasonal wetlands located in parts of California and associated with topographic depression, soils with poor drainage, mild, wet winters and hot, dry summers.

(v) *Texas coastal prairie wetlands*. Texas coastal prairie wetlands are freshwater wetlands that occur as a mosaic of depressions, ridges, intermound flats, and mima mound wetlands located along the Texas Gulf Coast.

(8) All waters located within the 100-year floodplain of a water identified in paragraphs (a)(1) through (3) of this section and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (a)(1) through (5) of this section where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section. For waters determined to have a significant nexus, the entire water is a water of the United States if a portion is located within the 100-year floodplain of a water identified in paragraphs (a)(1) through (3) of this section or within 4,000 feet of the high tide line or ordinary high water mark. Waters identified in this paragraph shall not be combined with waters identified in paragraph (a)(6) of this section when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (a)(6), they are an adjacent water and no case-specific significant nexus analysis is required.

(b) The following are not ‘‘waters of the United States’’ even where they otherwise meet the terms of paragraphs (a)(4) through (8) of this section.

(1) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act.

(2) Prior converted cropland. Notwithstanding the determination of an area’s status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA.

(3) The following ditches:

(i) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.

(ii) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.

(iii) Ditches that do not flow, either directly or through another water, into a water identified in paragraphs (a)(1) through (3) of this section.

(4) The following features:

(i) Artificially irrigated areas that would revert to dry land should application of water to that area cease;

(ii) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;

(iii) Artificial reflecting pools or swimming pools created in dry land;

(iv) Small ornamental waters created in dry land;

(v) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;

(vi) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of tributary, non-wetland swales, and lawfully constructed grassed waterways; and

(vii) Puddles.

(5) Groundwater, including groundwater drained through subsurface drainage systems.

(6) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.

(7) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

(c) Definitions. In this section, the following definitions apply:

(1) **Adjacent**. The term adjacent means bordering, contiguous, or neighboring a water identified in paragraphs (a)(1) through (5) of this section, including waters separated by constructed dikes or barriers, natural river berms, beach dunes, and the like. For purposes of adjacency, an open water such as a pond or lake includes any wetlands within or abutting its ordinary high water mark. Adjacency is not limited to waters located laterally to a water identified in paragraphs (a)(1) through (5) of this section. Adjacent waters also include all waters that connect segments of a water identified in paragraphs (a)(1) through (5) or are located at the head of a water identified in paragraphs (a)(1) through (5) of this section and are bordering, contiguous, or neighboring such water. Waters being used for established normal farming, ranching, and silviculture activities (33 U.S.C. 1344(f)) are not adjacent.

(2) **Neighboring**. The term neighboring means:

(i) All waters located within 100 feet of the ordinary high water mark of a water identified in paragraphs (a)(1) through (5) of this section. The entire water is neighboring if a portion is located within 100 feet of the ordinary high water mark;

(ii) All waters located within the 100-year floodplain of a water identified in paragraphs (a)(1) through (5) of this section and not more than 1,500 feet from the ordinary high water mark of such water. The entire water is neighboring if a portion is located within 1,500 feet of the ordinary high water mark and within the 100-year floodplain;

(iii) All waters located within 1,500 feet of the high tide line of a water identified in paragraphs (a)(1) or (a)(3) of this section, and all waters within 1,500 feet of the ordinary high water mark of the Great Lakes. The entire water is neighboring if a portion is located within 1,500 feet of the high tide line or within 1,500 feet of the ordinary high water mark of the Great Lakes.

(3) **Tributary and tributaries**. The terms tributary and tributaries each mean a water that contributes flow, either directly or through another water (including an impoundment identified in paragraph (a)(4) of this section), to a water identified in paragraphs (a)(1) through (3) of this section that is characterized by the presence of the physical indicators of a bed and banks and an ordinary high water mark. These physical indicators demonstrate there is volume, frequency, and duration of flow sufficient to create a bed and banks and an ordinary high water mark, and thus to qualify as a tributary. A tributary can be a natural, man-altered, or man-made water and includes waters such as rivers, streams, canals, and ditches not excluded under paragraph (b) of this section. A water that otherwise qualifies as a tributary under this definition does not lose its status as a tributary if, for any length, there are one or more constructed breaks (such as bridges, culverts, pipes, or dams), or one or more natural breaks (such as wetlands along the run of a stream, debris piles, boulder fields, or a stream that flows underground) so long as a bed and banks and an ordinary high water mark can be identified upstream of the break. A water that otherwise qualifies as a tributary under this definition does not lose its status as a tributary if it contributes flow through a water of the United States that does not meet the definition of tributary or through a nonjurisdictional water to a water identified in paragraphs (a)(1) through (3) of this section.

(4) **Wetlands**. The term wetlands means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

(5) **Significant nexus**. The term significant nexus means that a water, including wetlands, either alone or in combination with other similarly situated waters in the region, significantly affects the chemical, physical, or biological integrity of a water identified in paragraphs (a)(1) through (3) of this section. The term ‘‘in the region’’

means the watershed that drains to the nearest water identified in paragraphs (a)(1) through (3) of this section. For an effect to be significant, it must be more than speculative or insubstantial. Waters are similarly situated when they function alike and are sufficiently close to function together in affecting downstream waters. For purposes of determining whether or not a water has a significant nexus, the water's effect on downstream paragraph (a)(1) through (3) waters shall be assessed by evaluating the aquatic functions identified in paragraphs (c)(5)(i) through (ix) of this section. A water has a significant nexus when any single function or combination of functions performed by the water, alone or together with similarly situated waters in the region, contributes significantly to the chemical, physical, or biological integrity of the nearest water identified in paragraphs (a)(1) through (3) of this section. Functions relevant to the significant nexus evaluation are the following:

(i) Sediment trapping,
(ii) Nutrient recycling,
(iii) Pollutant trapping, transformation, filtering, and transport,
(iv) Retention and attenuation of flood waters,
(v) Runoff storage,
(vi) Contribution of flow,
(vii) Export of organic matter,
(viii) Export of food resources, and
(ix) Provision of life cycle dependent aquatic habitat (such as foraging, feeding, nesting, breeding, spawning, or use as a nursery area) for species located in a water identified in paragraphs (a)(1) through (3) of this section.

(6) **Ordinary high water mark**. The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

(7) **High tide line**. The term high tide line means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

1.13.2 -- Discharges Not Requiring Permits ('Section 404 Silviculture Exemption' and 15 Mandatory BMPs for Forest Roads in Wetlands)

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.

(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 converted 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.

(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.
(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.

(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.

(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.

(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.

1.13.3 -- USEPA/USACE Joint Memorandum to the Field Related to Mechanical Site Prep BMPs for Pine Plantations on Wetlands of the Southeast

http://www.epa.gov/owow/wetlands/guidance/silv2.html

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.

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 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) <u>Permanently flooded, intermittently exposed, and semi-permanently flooded wetlands.</u> 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) <u>Riverine Bottomland Hardwood wetlands:</u> 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.

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.

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 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.

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.

Further Information

The Corps and EPA will work closely with the States, forestry community, and public to answer any questions that may arise with regard to this guidance. For further information on this memorandum, please contact EPA's Wetlands Division at (202) 260-9910 or the Corps of Engineer's Regulatory Branch at (202) 761-0199. The public may also contact:

EPA Region IV	(404) 347-3871 ext.6507	Corps Norfolk District	(804) 441-7068
EPA Region VI	(214) 665-6680	Corps Mobile District	(334) 690-2658
EPA Region III	(215) 597-9301	Corps Little Rock District	(501) 324-5296
Corps Wilmington District	(910) 251-4630	Corps Memphis District	(901) 544-3471
Corps Charleston District	(803) 727-4330	Corps Nashville District	(615) 736-5181
Corps Savannah District	(912) 652-5768	Corps New Orleans District	(504) 862-2255
Corps Jacksonville District	(904) 232-1666	Corps Vicksburg District	(601) 631-5276

Robert H. Wayland, III
Director, Office of Wetlands, Oceans, and Watersheds
U.S. Environmental Protection Agency

Michael L. Davis
Chief, Regulatory Branch
U.S. Army Corps of Engineers

(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.

(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.

(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.

(7) These forest types are a subset of those described in Schafale and Weakley, 1990.

(8) Cowardin et al., 1979.

(9)Contact the nearest Corps District listed at the end of this document for further information.

1.13.4 -- USACE Information on Construction of Forest Roads within Wetlands

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 Forest Service (NCFS). 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 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 NCFS home page at http://ncforestservice.gov, the USACE, Wilmington District, Regulatory Division's home page at www.saw.usace.army.mil/wetlands/index.htm, 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.

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[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.*

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)**.

TYPICAL FOREST ROAD DIMENSIONS

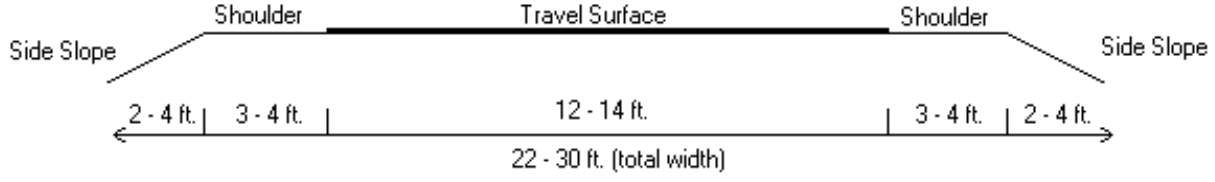

Figure 1. *Dimensions of a typical forest road constructed in wetlands. In general a top width of 18 – 22 ft., made up of a 12 – 14 ft. wide travel surface with 3 – 4 ft. shoulders on either side, should be sufficient. Road heights of 1 – 2 ft. with 2:1 side slopes will result in total widths of 22 –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

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).**

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.**

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 NCFS 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.

[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.*

1.13.5 -- USACE Regulatory Guidance Letters related to the silviculture exemption

1.13.5.1 == USACE Regulatory Guidance Letter RGL 90-05 (Landclearing)

Regulatory Guidance Letter 90-05
SUBJECT: Landclearing Activities Subject to Section 404 Jurisdiction
DATE: 18 July 1990 EXPIRES: 31 December 1992

1. The purpose of this guidance is to interpret the statutory and regulatory definitions of "discharge of a pollutant" (CWA section 502(12) and 33 CFR 327.2(f)) to the effect that land- clearing activities using mechanized equipment such as backhoes or bulldozers with sheer blades, rakes, or discs constitute point source discharges and are subject to section 404 jurisdiction when they take place in wetlands which are waters of the United States.
2. In Avoyelles Sportsmen's League, Inc. v. Marsh, 715 F.2d 897, 923 - 24 (5th Cir.1983) the court stated that the term "discharge" may reasonably be understood to include "redeposit" and concluded that the term "discharge" covers the redepositing of soil taken from wetlands such as occurs during mechanized landclearing activities. Although the court in Avoyelles did not decide whether all landclearing activities constitute a discharge, it is our position that mechanized landclearing activities in jurisdictional wetlands result in a redeposition of soil that is subject to regulation under section 404. Some limited exceptions may occur, such as cutting trees above the soil's surface with a chain saw, but as a general rule, mechanized landclearing is a regulated activity.
3. As with any discharge subject to section 404, each case must be reviewed to determine if the discharge qualifies for a regional or nationwide permit, or for an exemption under section 404(f). This guidance is not intended to alter the exemptions for normal farming or silviculture activities under section 404(f).
4. This interpretation alters in some respects the guidance provided by previous Regulatory Guidance Letters (RGLs) on Landclearing (in particular RGL 85-4) and FOAs should exercise appropriate enforcement discretion with regard to properties whose owners have previously been informed that no permit is required for such landclearing based on the prior RGLs. The guidance in this RGL should apply to property which has not been cleared, unless the owner can demonstrate that he has committed substantial resources towards the clearing, in reliance on earlier Corps guidance, to the extent that it would be inequitable to apply this guidance.
5. This guidance expires on 31 December 1992 unless sooner modified or rescinded.

FOR THE DIRECTOR OF CIVIL WORKS:
JOHN P. ELMORE
Chief, Operations, Construction and Readiness Division
Directorate of Civil Works

1.13.5.2 == USACE Regulatory Guidance Letter RGL 96-02 (Deep Ripping)

Regulatory Guidance Letter 96-02
SUBJECT: Applicability of Exemptions under Section 404(f) to "Deep-Ripping" Activities in Wetlands
DATE: 12 December 1996 EXPIRES: 31 December 2001

Department of the Army, U.S. Army Corps of Engineers
United States Environmental Protection Agency

MEMORANDUM TO THE FIELD
SUBJECT: Applicability of Exemptions under Section 404(f) to "Deep-Ripping" Activities in Wetlands

PURPOSE: The purpose of this memorandum is to clarify the applicability of exemptions provided under Section 404(f) of the Clean Water Act (CWA) to discharges associated with "deep-ripping" and related activities in wetlands.[1]

[1] As this guidance addresses primarily agricultural-related activities, characterizations of such practices have been developed in consultation with experts at the U.S. Department of Agriculture (USDA), Natural Resources Conservation Service.

BACKGROUND:

1. Section 404(f)(1) of the CWA exempts from the permit requirement certain discharges associated with normal farming, forestry, and ranching practices in waters of the United States, including wetlands. Discharges into waters subject to the Act associated with farming, forestry, and ranching practices identified under Section 404(f)(1) do not require a permit except as provided under Section 40.4(f)(2).
2. Section 404(f)(1) does not provide a total automatic exemption for all activities related to agricultural silvicultural or ranching practices. Rather, Section 404(f)(1) exempts only those activities specifically identified in paragraphs (A) through (F), and "other activities of essentially the same character as named" [44 FR 34264]. For example, Section 404(f)(1)(A) lists discharges of dredged or fill material 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."
3. Section 404(f)(1)(A) is limited to activities that are part of an "established (i.e., ongoing) farming, silviculture, or ranching operation." This "established" requirement is intended to reconcile the dual intent reflected in the legislative history that although Section 404 should not unnecessarily restrict farming, forestry, or ranching from continuing at a particular site, discharge activities which could destroy wetlands or other waters should be subject to regulation.
4. EPA and Corps regulations [40 CFR 230 and 33 CFR 320] and preamble define in some detail the specific "normal" activities listed in Section 404(f)(1)(A). Three points may be useful in the current context:
   a. As explained in the preamble to the 1979 proposed regulations, the words "such as" have been consistently interpreted as restricting the section "to the activities <u>named</u> in the statute and other activities of essentially the same character as named," and "preclude the extension of the exemption ... to activities that are unlike those named." [44 FR 34264].
   b. Plowing is specifically defined in the regulations not to include the redistribution of surface material in a manner which converts wetlands areas to uplands [See 40 CFR 233.35(a)(1)(iii)(D)].
   c. Discharges associated with activities that establish an agricultural operation in wetlands where previously ranching had been conducted, represents a "change in use" within the meaning of Section 404(f)(2). Similarly, discharges that establish forestry practices in wetlands historically subject to agriculture also represent a change in use of the site (See 40 CFR 233.35(c)].
5. The statute includes a provision at Section 404(f)(2) that "recaptures" or reestablishes the permit requirement for those otherwise exempt discharges which:
   a. convert an area of the waters of the U.S. to a new use, <u>and</u>
   b. impair the flow or circulation of waters of the U.S. <u>or</u> reduce the reach of waters of the U.S.
6. Conversion of an area of waters of the U.S. to uplands triggers both provisions (a) and (b) above. Thus, at a minimum any otherwise exempt discharge that results in the conversion of waters of the U.S. to upland is recaptured under Section 404(f)(2) and requires a permit. It should be noted that in order to trigger the recapture provisions of Section 404(f)(2), the discharges themselves need not be the sole cause of the destruction of the wetland or other change in use or sole cause of the reduction or impairment of reach, flow, or circulation of waters of the U.S. Rather, the discharges need only be "incidental to" or "part of" an activity which is intended to or will forseeably bring about that result. Thus, in applying Section 404(f)(2), one must consider discharges in context, rather than isolation.

ISSUE:

1. Questions have been raised involving "deep-ripping" and related activities in wetlands and whether discharges associated with these actions fall within the exemptions at Section 404(f)(1)(A). In addition, the issue has been raised whether, if such activities fall within the exemption, they would be recaptured under Section 404(f)(2).
2. "Deep-ripping" is defined as the mechanical manipulation of the soil to break up or pierce highly compacted, impermeable or slowly permeable subsurface soil layers, or other similar kinds of restrictive soil layers. These practices are typically used to break up these subsoil layers (e.g., impermeable soil layer, hardpan) as part of the initial preparation of the soil to establish an agricultural or silvicultural operation. Deep-ripping and related activities are also used in established farming operations to break up highly compacted soil. Although deep-ripping and related activities may be required more than once, the activity is typically not an annual practice. Deep-ripping and related activities are undertaken to improve site drainage and facilitate deep root growth, and often occur to depths greater than 16 inches and, in some cases, exceeding 4 feet below the surface. As such it requires the use of heavy equipment, including bulldozers, equipped with ripper-blades, shanks, or chisels often several feet in length. Deep-ripping and related activities involve extending the blades to appropriate depths and dragging them through the soil to break up the restrictive layer.
3. Conversely, plowing is defined in EPA and Corps regulations [40 CFR 230 and 33 CFR 320] as "all forms of primary tillage ... used ... for the breaking up, cutting, turning over, or stirring of soil to prepare it for the planting of crops" [40

CFR 232.3(d)(4)]. As a general matter, normal plowing activities involve the annual or at least regular, preparation of soil prior to seeding or other planting activities. According to USDA, plowing generally involves the use of a blade, chisel or series of blades, chisels, or discs, usually 8-10 inches in length pulled behind a farm vehicle to prepare the soil for the planting of annual crops or to support an ongoing farming practice. Plowing is commonly used to break up the surface of the soil to maintain soil tilth and to facilitate infiltration throughout the upper root zone.

DISCUSSION:

1. Plowing in wetlands is exempt from regulation consistent with the following circumstances:
   a. it is conducted as part of an ongoing, established agricultural, silvicultural or ranching operation; and
   b. the plowing is not incidental to an activity that results in the immediate or gradual conversion of wetlands to non-waters.
2. Deep-ripping and related activities are distinguishable from plowing and similar practices (e.g., discing, harrowing) with regard to the purposes and circumstances under which it is conducted, the nature of the equipment that is used, and its effect, including in particular the impacts to the hydrology of the site.
   a. Deep-ripping and related activities are commonly conducted to depths exceeding 16 inches, and as deep as 6-8 feet below the soil surface to break restrictive soil layers and improve water drainage at sites that have not supported deeper rooting crops. Plowing depths, according to USDA, rarely exceed one foot into the soil and not deeper than 16 inches without the use of special equipment involving special circumstances. As such, deep- ripping and related activities typically involve the use of special equipment, including heavy mechanized equipment and bulldozers, equipped with elongated ripping blades, shanks, or chisels often several feet in length. Moreover, while plowing is generally associated with ongoing operations, deep-ripping and related activities are typically conducted to prepare a site for establishing crops not previously planted at the site. Although deep-ripping may have to be redone at regular intervals in some circumstances to maintain proper soil drainage, the activity is typically not an annual or routine practice.
   b. Frequently, deep-ripping and related activities are conducted as a preliminary step for converting a "natural" system or for preparing rangeland for a new use such as farming or silviculture. In those instances, deep ripping and related activities are often required to break up naturally-occurring impermeable or slowly permeable subsurface soil layers to facilitate proper root growth. For example, for certain depressional wetlands types such as vernal pools, the silica-cemented hardpan (durapan) or other restrictive layer traps precipitation and seasonal runoff creating ponding and saturation conditions at the soil surface. The presence of these impermeable or slowly permeable subsoil layers is essential to support the hydrology of the system. Once these layers are disturbed by activities such as deep-ripping, the hydrology of the system is disturbed and the wetland is often destroyed.
   c. In contrast, there are other circumstances where activities such as deep-ripping and related activities are a standard practice of an established on-going farming operation. For example, in parts of the Southeast, where there are deep soils having a high clay content, mechanized farming practices can lead to the compaction of the soil below the sod surface. It may be necessary to break up, on a regular although not annual basis, these restrictive layers in order to allow for normal root development and infiltration. Such activities may require special equipment and can sometimes occur to depths greater than 16 inches. However, because of particular physical conditions, including the presence of a water table at or near the surface for part of the growing season, the activity typically does not have the effect of impairing the hydrology of the system or otherwise altering the wetland characteristics of the site.

CONCLUSION:

1. When deep-ripping and related activities are undertaken as part of an <u>established ongoing</u> agricultural, silvicultural, or ranching operation, to break up compacted soil layers <u>and</u> where the hydrology of the site will not be altered such that it would result in conversion of waters of the U.S. to upland, such activities are exempt under Section 404(f)(1)(A).
2. Deep-ripping and related activities in wetlands are not part of a normal ongoing activity, and therefore not exempt, when such practices are conducted in association with efforts to establish for the first time (or when a previously established operation was abandoned) an agricultural, silvicultural, or ranching operation. In addition, deep-ripping and related activities are not exempt in circumstances where such practices would trigger the "recapture" provision of Section 404(f)(2):
   a. Deep-ripping to establish a farming operation at a site where a ranching or forestry operation was in place is a change in use of such a site. Deep-ripping and related activities that also have the effect of altering or removing the wetland hydrology of the site would trigger Section 404(f)(2) and such ripping would require a permit.
   b. Deep-ripping a site that has the effect of converting wetlands to non-waters would also trigger Section 404(f)(2) and such ripping would require a permit.
3. It is the agencies' experience that certain wetland types are particularly vulnerable to hydrological alteration as a result of deep-ripping and related activities. Depressional wetland systems such as prairie potholes, vernal pools and playas whose hydrology is critically dependent upon the presence of an impermeable or slowly permeable subsoil layer are

particularly sensitive to disturbance or alteration of this subsoil layer. Based upon this experience, the agencies have concluded that, as a general matter, deep-ripping and similar practices, consistent with the descriptions above, conducted in prairie potholes, vernal pools, playas, and similar depressions wetlands destroy the hydrological integrity of these wetlands. In these circumstances, deep-ripping in prairie potholes, vernal pools, and playas is recaptured under Section 404(f)(2) and requires a permit under the Clean Water Act.

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1.13.5.3 == USACE Regulatory Guidance Letter RGL 07-02 (Ditch Maintenance and Construction)

Exemptions for Construction or Maintenance of Irrigation Ditches and Maintenance of Drainage Ditches Under Section 404 of Clean Water Act

NOTE: This regulatory guidance letter 07-02 supersedes RGL 87-07. The full text of the RGL 07-02 dated July 4, 2007 is not printed in this Appendix, but is available from the U.S. Army Corps of Engineers website below.
http://www.usace.army.mil/portals/2/docs/civilworks/rgls/rgl07-02.pdf

The purpose of this Regulatory Guidance Letter 07-02 ("RGL" or "guidance") is to provide a reasonable and predictable national approach for conducting exemption determinations for the construction and maintenance of irrigation ditches and the maintenance of drainage ditches consistent with Section 404(f) of the Clean Water Act (CWA) (also known as the Federal Water Pollution Control Act or FWPCA) Pub. L. 92-500, as amended by Pub. L. 95-217, Pub. L. 100-4, Pub. L. 104-66, 33 U.S.C. § 1251, et seq., and with associated regulations (33 C.F.R. 320-330, 40 C.F.R. Part 232). This guidance is intended to clarify when 404(f) exempts from permitting requirements discharges of dredged or fill material into waters of the U.S. associated with the construction and maintenance of irrigation ditches and maintenance of drainage ditches. This RGL was developed and is endorsed by the U.S. Army Corps of Engineers (Corps) and the Environmental Protection Agency (EPA). EPA has the ultimate authority for interpreting the scope of exemptions under CWA Section 404(f).

This document supercedes RGL 87-07, which addresses the Section 404(f)(1)(C) Statutory Exemption for Drainage Ditch Maintenance. Other documents, such as the 1989 MOA addressing 404(f) coordination, are unaffected. As indicated above, this RGL addresses statutory exemptions for both irrigation and drainage ditches. In this effort to provide greater clarity, the following terms are defined for purposes of Subsection 404(f): irrigation ditch, drainage ditch, construction, and maintenance. This document also provides a framework for determining the applicability of the exemptions and the recapture provision. (See Figure 1). While providing greater clarity, both the framework and the definitions are consistent with the agencies' current practice in interpreting the Section 404(f) exemption.

1.14 - State Wetlands Rules

1.14.1 -- N.C. Wetland Standards: A Component of the Water Quality Standards
http://portal.ncdenr.org/web/wq/ps/csu/rules

15A NCAC 02B .0231 Wetland Standards

(a) General. 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 and the moderation of extreme water level fluctuations;
- (2) 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;

(3) Filtration or storage of sediments, nutrients, toxic substances, or other pollutants that would otherwise adversely impact the quality of other waters of the state;
(4) Shoreline protection against erosion through the dissipation of wave energy and water velocity and stabilization of sediments;
(5) Habitat for the propagation of resident wetland-dependent aquatic organisms including, but not limited to 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
(6) Habitat for the propagation of resident wetland-dependent wildlife species, including mammals, birds, reptiles and amphibians for breeding, nesting, cover, travel corridors and food.

(b) The following standards shall be used to assure the maintenance or enhancement of the existing uses of wetlands identified in Paragraph (a) of this Rule:
(1) Liquids, fill or other solids or dissolved gases may not be present in amounts which may cause adverse impacts on existing wetland uses;
(2) Floating or submerged debris, oil, deleterious substances, or other material may not be present in amounts which may cause adverse impacts on existing wetland uses;
(3) Materials producing color, odor, taste or unsightliness may not be present in amounts which may cause adverse impacts on existing wetland uses;
(4) Concentrations or combinations of substances which are toxic or harmful to human, animal or plant life may not be present in amounts which individually or cumulatively may cause adverse impacts on existing wetland uses;
(5) Hydrological conditions necessary to support the biological and physical characteristics naturally present in wetlands shall be protected to prevent adverse 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.
(6) The populations of wetland flora and fauna shall be maintained to protect biological integrity as defined at 15A NCAC 2B .0202.

History Note: Authority G.S. 143-214.1; 143-215.3(a)(1); RRC Objection Eff. July 18, 1996 due to lack of statutory authority and ambiguity; Eff. October 1, 1996.

1.14.2 -- Activities Deemed to Comply with Wetland Standards

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 2B .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 must 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 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 regulations also must comply with relevant portions of those regulations;

(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 Sediment and Erosion 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;

(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).

History Note: Authority G.S. 143-214.1; 143-214.7; 143-215; 143-215.3; 143-215.6A; 143-215.6B; 143-215.6C;Temporary Adoption Eff. November 24, 1999;Eff. April 1, 2001.

1.14.3 -- North Carolina Permitting Program for Discharges to Isolated Wetlands and Isolated Waters

The NC permitting program for discharges to isolated wetlands and waters is described in 15A NCAC 02H .1300 – "*Discharges to Isolated Wetlands and Isolated Waters*". A brief excerpt of the introductory section to the rules is cited:

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.

History Note: Authority G.S. 143-215.1(a)(6); 143-215.3(a)(1); 143-215.3(c); Codifier determined that findings did not meet criteria for temporary rule on September 26, 2001 and October 12, 2001; Temporary Adoption Eff. October 22, 2001; Eff. April 1, 2003.

1.14.4 -- The North Carolina 'Dredge and Fill Law'

NC 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. 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.

(b) All applications for such permits shall include a plat of the areas in which the proposed work will take place, indicating the location, width, depth and length of any proposed channel, the disposal area, and a copy of the deed or other instrument under which the applicant claims title to the property adjoining the waters in question, (or any land covered by waters), tidelands, or marshlands, or if the applicant is not the owner, then a copy of the deed or other instrument under which the owner claims title plus written permission from the owner to carry out the project on his land.

(c) In lieu of a deed or other instrument referred to in subsection (b) of this section, the agency authorized to issue such permits may accept some other reasonable evidence of ownership of the property in question or other lawful authority to make use of the property.

(c1) The Coastal Resources Commission may, by rule, designate certain classes of major and minor development for which a general or blanket permit may be issued. In developing these rules, the Commission shall consider all of the following:

(1) The size of the development.
(2) The impact of the development on areas of environmental concern.
(3) How often the class of development is carried out.
(4) The need for on-site oversight of the development.
(5) The need for public review and comment on individual development projects.

(c2) General permits may be issued by the Commission as rules under the provisions of G.S. 113A-118.1. Individual development carried out under the provisions of general permits shall not be subject to the mandatory notice provisions of this section. The Commission may impose reasonable notice provisions and other appropriate conditions and safeguards on any general permit it issues. The variance, appeals, and enforcement provisions of this Article shall apply to any individual development projects undertaken under a general permit.

(d) An applicant for a permit, other than an emergency permit, shall send a copy of his application to the owner of each tract of riparian property that adjoins that of the applicant. The copy shall be served by certified mail or, if the owner's address is unknown and cannot be ascertained with due diligence or if a diligent but unsuccessful effort has been made to serve the copy by certified mail, by publication in accordance with the rules of the Commission. An owner may file written objections to the permit with the Department for 30 days after he is served with a copy of the application. In the case of a special emergency dredge or fill permit the applicant must certify that he took all reasonable steps to notify adjacent riparian owners of the application for a special emergency dredge and fill permit prior to submission of the application. Upon receipt of this certification, the Secretary shall issue or deny the permit within the time period specified in (e) of this section, upon the express understanding from the applicant that he will be entirely liable and hold the State harmless for all damage to adjacent riparian landowners directly and proximately caused by the dredging or filling for which approval may be given.

(e) Applications for permits except special emergency permit applications shall be circulated by the Department among all State agencies and, in the discretion of the Secretary, appropriate federal agencies having jurisdiction over the subject matter which might be affected by the project so that such agencies will have an opportunity to raise any objections they might have. The Department may deny an application for a dredge or fill permit upon finding: (1) that there will be significant adverse effect of the proposed dredging and filling on the use of the water by the public; or (2) that there will be significant adverse effect on the value and enjoyment of the
property of any riparian owners; or (3) that there will be significant adverse effect on public health, safety, and welfare; or (4) that there will be significant adverse effect on the conservation of public and private water supplies; or (5) that there will be significant adverse effect on wildlife or fresh water, estuarine or marine fisheries. In the absence of such findings, a permit shall be granted. Such permit may be conditioned upon the applicant amending his proposal to take whatever measures are reasonably necessary to protect the public interest with respect to the factors enumerated in this subsection. Permits may allow for projects granted a permit the right to maintain such project for a period of up to 10 years. The right to maintain such project shall be granted subject to such conditions as may be reasonably necessary to protect the public interest. The Coastal Resources Commission shall coordinate the issuance of permits under this section and G.S. 113A-118 and the granting of variances under this section and G.S. 113A-120.1 to avoid duplication and to create a single, expedited permitting process. The Coastal Resources Commission may adopt rules interpreting and applying the provisions of this section and rules specifying the procedures for obtaining a permit under this section. Maintenance work as defined in this subsection shall be limited to such activities as are required to maintain the project dimensions as found in the permit granted. The Department shall act on an application for permit within 75 days after the completed application is filed, provided the Department may extend such deadline by not more than an additional 75 days if necessary properly to consider the application, except for applications for a special emergency permit, in which case the Department shall act within two working days after an application is filed, and failure to so act shall automatically approve the application.

(e1)The Secretary is empowered to issue special emergency dredge or fill permits upon application. Emergency permits may be issued only when life or structural property is in imminent danger as a result of rapid recent erosion or sudden failure of a man-made structure. The Coastal Resources Commission may elaborate by rule upon what conditions the Secretary may issue a special emergency dredge or fill permit. The Secretary may condition the emergency permit upon any reasonable conditions, consistent with the emergency situation, he feels are necessary to reasonably protect the public interest. Where an application for a special emergency permit includes work beyond which the Secretary, in his discretion, feels necessary to reduce imminent dangers to life or property he shall issue the emergency permit only for that part of the proposed work necessary to reasonably reduce the imminent danger. All further work must be applied for by application for an ordinary dredge or fill permit. The Secretary shall deny an application for a special dredge or fill permit upon a finding that the detriment to the public which would occur on issuance of the permit measured by the five factors in G.S. 113-229(e) clearly outweighs the detriment to the applicant if such permit application should be denied.

(f) A permit applicant who is dissatisfied with a decision on his application may file a petition for a contested case hearing under G.S. 150B-23 within 20 days after the decision is made. Any other person who is dissatisfied with a decision to deny or grant a permit may file a petition for a contested case hearing only if the Coastal Resources Commission determines, in accordance with G.S. 113A-121.1(c), that a hearing is appropriate. A permit is suspended from the time a person seeks administrative review of the decision concerning the permit until the Commission determines that the person seeking the review cannot commence a contested case or the Commission makes a final decision in a contested case, as appropriate, and no action may be taken during that time that would be unlawful in the absence of the permit.

(g) G.S. 113A-122 applies to an appeal of a permit decision under subsection (f).

(h) Repealed by Session Laws 1987, c. 827, s. 105.

(h1)Except as provided in subsection (h2) of this section, all construction and maintenance dredgings of beach-quality sand may be placed on the affected downdrift ocean beaches or, if placed elsewhere, an equivalent quality and quantity of sand from another location shall be placed on the downdrift ocean beaches.

(h2)Clean, beach quality material dredged from navigational channels within the active nearshore, beach or inlet shoal systems shall not be removed permanently from the active nearshore, beach or inlet shoal system. This dredged material shall be disposed of on the ocean beach or shallow active nearshore area where it is environmentally acceptable and compatible with other uses of the beach.

(i) Subject to subsections (h1) and (h2) of this section, all materials excavated pursuant to such permit, regardless of where placed, shall be encased or entrapped in such a manner as to minimize their moving back into the affected water.

(j) None of the provisions of this section shall relieve any riparian owner of the requirements imposed by the applicable laws and regulations of the United States.

(k) Any person, firm, or corporation violating the provisions of this section shall be guilty of a Class 2 misdemeanor. Each day's continued operation after notice by the Department to cease shall constitute a separate offense. A notice to cease shall be served personally or by certified mail.

(l)The Secretary may, either before or after the institution of proceedings under subsection (k) of this section, institute a civil action in the superior court in the name of the State upon the relation of the Secretary, for damages, and injunctive relief, and for such other and further relief in the premises as said court may deem proper, to prevent or recover for any damage to

any lands or property which the State holds in the public trust, and to restrain any violation of this section or of any provision of a dredging or filling permit issued under this section. Neither the institution of the action nor any of the proceedings thereon shall relieve any party to such proceedings from the penalty prescribed by this section for any violation of the same.

(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) .

(1969, c. 791, s. 1; 1971, c. 1159, s. 6; 1973, c. 476, s. 128; c. 1262, ss. 28, 86; c. 1331, s. 3; 1975, c. 456, ss. 1-7;1977, c. 771, s. 4; 1979, c. 253, ss. 1, 2; 1983, c. 258, ss. 1-3; c. 442, s. 2; 1987, c. 827, s.105; 1989, c. 727, s. 107; 1993, c. 539, s. 844; 1994, Ex. Sess., c. 24, s. 14(c); 1993 (Reg. Sess.,1994), c. 777, s. 6(a), (b); 1995, c. 509, s. 55.1(a)-(c); 2000-172, ss. 3.1, 3.2; 2002-126, ss. 29.2(h)-(j).)

1.15 - N.C. General Statutes on Stream and Ditch Obstructions

NC 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 Environment and Natural Resources 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. *(1872-3, c. 107, ss. 1, 2; Code, s. 1123; Rev., s. 3559; C.S., s. 7377; 1975, c. 509; 1977, c. 771, s. 4; 1979, c. 493, s. 1; 1987, c. 641, s. 12; 1989, c. 727, s. 218(19); 1991, c. 152, s. 1; 1993, c. 539, s. 581; 1994, Ex. Sess., c. 24, s. 14(c); 1997-443, s. 11A.119(a).)*

NC 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 Environment and Natural Resources 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. *(1953, c. 1242; 1957, c. 524; 1959, cc. 160, 1125; 1961, c. 507; 1969, c. 790, s. 1; 1975, c. 509; 1977, c. 771, s. 4; 1979, c. 493, s. 1; 1987, c. 641, s. 13; 1989, c. 727, s. 218(20); 1991, c. 152, s. 2; 1993, c. 539, s. 582; 1994, Ex. Sess., c. 24, s. 14(c); 1997-443, s. 11A.119(a).)*

1.16 - The 2005 'right to practice forestry' bill for North Carolina

As cited from Web site: http://www.ncleg.net/Sessions/2005/Bills/Senate/HTML/S681v6.html

GENERAL ASSEMBLY OF NORTH CAROLINA SESSION 2005: SESSION LAW 2005-447 (SENATE BILL 681)

AN ACT to clarify the role of counties and cities in regulating certain forestry activities.
The General Assembly of North Carolina enacts:

SECTION 1. Article 23 of Chapter 153A of the General Statutes is amended by adding a new section to read:
"§ 153A-451. Restriction of certain forestry activities prohibited.

(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) Forestland. – Land that is devoted to growing trees for the production of timber, wood, and other forest products.
- (3) 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.
- (4) 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.
- (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 county shall not adopt or enforce any ordinance, rule, regulation, or resolution that regulates either:
- (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.

(c) This section shall not be construed to limit, expand, or otherwise alter the authority of a county to:
- (1) Regulate activity associated with development. A county may deny a building permit or refuse to approve a site or subdivision plan for either a period of up to:
  - a. Three years after the completion of a timber harvest if the harvest results in the removal of all or substantially all of the trees that were protected under county regulations governing development from the tract of land for which the permit or approval is sought.
  - b. Five years after the completion of a timber harvest if the harvest results in the removal of all or substantially all of the trees that were protected under county regulations governing development from the tract of land for which the permit or approval is sought and the harvest was a willful violation of the county regulations.
- (2) Regulate trees pursuant to any local act of the General Assembly.
- (3) Adopt ordinances that are necessary to comply with any federal or State law, regulation, or rule.
- (4) Exercise its planning or zoning authority under Article 18 of this Chapter."

SECTION 2. Article 19 of Chapter 160A of the General Statutes is amended by adding a new section to read:
"§ 160A-458.5. Restriction of certain forestry activities prohibited.

(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) Forestland. – Land that is devoted to growing trees for the production of timber, wood, and other forest products.
  (3) 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.
  (4) 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.
  (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 city shall not adopt or enforce any ordinance, rule, regulation, or resolution that regulates either:
  (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.

(c) This section shall not be construed to limit, expand, or otherwise alter the authority of a city to:
  (1) Regulate activity associated with development. A city may deny a building permit or refuse to approve a site or subdivision plan for either a period of up to:
    a. Three years after the completion of a timber harvest if the harvest results in the removal of all or substantially all of the trees that were protected under city regulations governing development from the tract of land for which the permit or approval is sought.
    b. Five years after the completion of a timber harvest if the harvest results in the removal of all or substantially all of the trees that were protected under city regulations governing development from the tract of land for which the permit or approval is sought and the harvest was a willful violation of the city regulations.
  (2) Regulate trees pursuant to any local act of the General Assembly.
  (3) Adopt ordinances that are necessary to comply with any federal or State law, regulation, or rule.
  (4) Exercise its planning or zoning authority under this Article.
  (5) Regulate and protect streets under Article 15 of this Chapter."

Approved 12:45 p.m. this 29th day of September, 2005.

1.17 - Exemption from Temporary Driveway Permits for Forestry

In this citation below, the word "Department" refers to the NC DOT.

§ 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. (SL2013-265, s.17.)