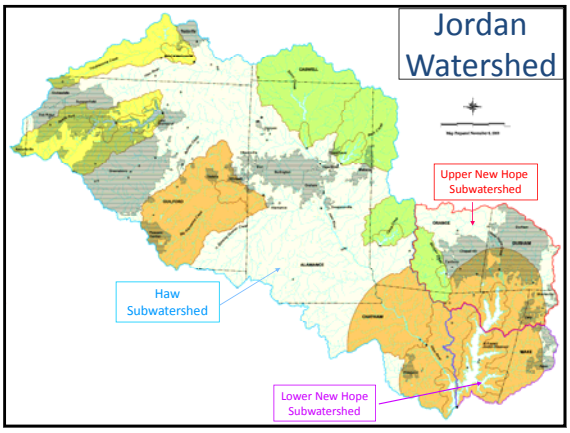
Jordan Lake Nutrient Management Strategy

Title 15A NCAC 02B .0262 – .0273
Session Law 2009-216
Session Law 2009-484



Nutrient Management Strategy

- Purpose: Restore and maintain nutrient-related water quality standards; protect its classified uses; maintain or enhance current water supply protections
- Effective: August 11, 2009
- Rules include requirements for:
  - Wastewater discharges
  - Stormwater management for new development, existing development and Federal and State entities
  - Agriculture
  - Fertilizer Management
  - Options for offsetting nutrient loads
  - Riparian Buffer Rules

Wastewater Discharge Requirements

- Applies to all wastewater treatment facilities discharging in the Jordan watershed that:
  - Receive nutrient-bearing wastewater

    and
  - Are subject to requirements for individual NPDES permits

Stormwater Management – New Development

- Applies to new development within the Jordan watershed and planning jurisdiction of a County/Municipality listed in 15A NCAC 02B .0262
  - Excludes Forsyth & Randolph Counties
- Local governments are required to develop stormwater programs
  - Can be more stringent than rules
  - Implemented ~ August 2012

Sw Management – New D Federal & State Entities

- Rule applies to new development that is within (or partially within) the Jordan watershed
  - NC DOT
  - Non-NCDOT (other State and Federal entities)
    - Requirements: Stormwater management plans for projects that disturb one-half acre or more of land
    - Submit plans to DWQ
    - Implemented ~ February 2011

Sw Management – Existing Development

- Stage One
  - Local governments must submit Stage One Plans by December 31, 2009
  - State and Federal Entities do not have a Stage One requirement
- Stage Two
  - Must be implemented by local governments, state and federal entities if monitoring reports show impairment

Agriculture

- Nutrient reduction goals for agricultural operations have been established
  - Reduction goals must be met at the subwatershed level
- Establish a Watershed Oversight Committee to implement these rules
  - Local Advisory Committees in each county may also be established

Fertilizer Management

- By August 2012, fertilizer application shall be made by:
  - An applicator who has completed nutrient management training -OR-
  - Pursuant to a nutrient management plan
- Rule does not apply to use of fertilizer by a homeowner on residential property

Options for Offsetting Nutrient Loads

- Provides activities subject to various Jordan rules the option to purchase reduction credit form other sellers.
  - New and existing development, State and federal entities, agriculture and point sources
- Must meet minimum onsite reduction requirements before seeking to purchase credit

QUESTIONS???

Riparian Buffer Protection

Title 15A NCAC 02B .0267 – .0269
Session Law 2009-484

Clearing and Grading

"No new clearing, grading or development shall take place

nor

shall any new building permits be issued in violation of this rule."

Title 15A NCAC 02B .0267(4)(h)

Riparian Buffer Protection

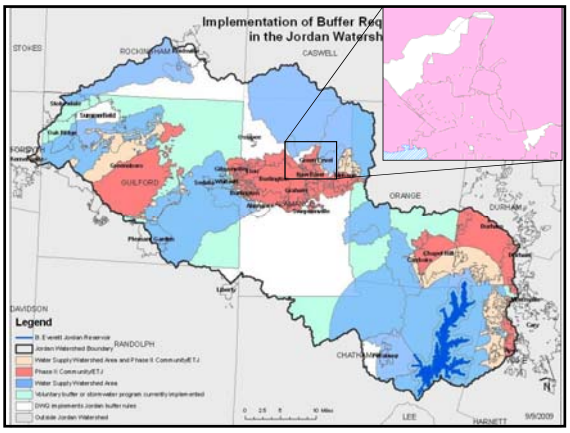
- Applicability
- Implementation
- Buffer Widths
- Diffuse Flow
- Existing Uses
- Table of Uses
- Mitigation
- Authorizations & Variances

Applicability

- Rule applies to all landowners and other persons conducting activities in the Jordan watershed
- Local Governments shall develop buffer programs for approval by the Commission
  - Excludes Forsyth and Randolph Counties
  - Incorporate at minimum the state standards
  - Apply rules throughout their jurisdiction within the watershed, except where DWQ shall exercise jurisdiction

Applicability

- DWQ shall implement the buffer rules for:
  - State and Federal activities
  - Activities under multiple jurisdictions
  - Local government activities
  - Forest harvesting and Agricultural activities
  - Activities conducted in a location where there is no local government implementing one of the following at the time of the activity:
    - NPDES stormwater
    - Water Supply
    - Voluntary local stormwater or buffer initiative



Implementation

DWQ-administered activities	
08-11-09	Implement requirements when rule becomes effective

Local Governments	
~11-10	Local governments shall implement their buffer program

Where does the buffer apply?

- Applies to:
  - Intermittent streams
  - Perennial streams
  - Lakes
  - Reservoirs
  - Ponds
  - Modified natural streams
- Does not apply to:
  - Manmade ponds & lakes outside natural drainage ways
  - Ephemeral streams
  - Ditches or manmade conveyances
  - 404 Wetlands

- **Intermittent** - well-defined channel that contains water for only part of the year, typically the winter and spring
- **Perennial** - well-defined channel that contains water year round during a year with **normal** rainfall
- **Ephemeral** - flows in direct response to precipitation event

Where does the buffer apply?

- A surface water shall be subject if the feature is approximately shown only on the following references:
  - Most recent version of the soil survey map
  - Most recent version of USGS 1:24,000 scale
  - Map approved by the Geographic Information Coordinating Council and the EMC

Mapping

- Always use the **most recent** version of the maps
  - Mapping software may be useful, but may not be the most current version
- Use **published** versions of NRCS maps
  - Paper copies
  - Scanned copies of the paper version
  - PDF copies of the paper version

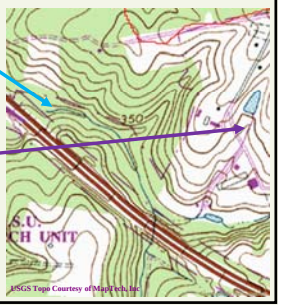
Only use the published version of the County soil surveys in the context of the buffer rules

USGS Topo Maps

"Blue-Lines"

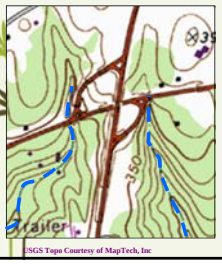
"Purple-Lines"

Whatever!

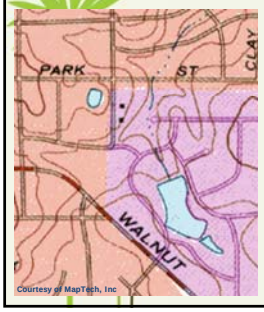


"Approximately Shown"

Still need to field survey stream



Ponds and Lakes



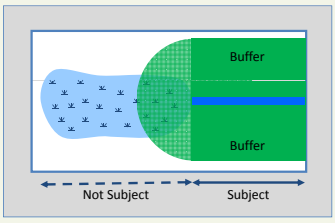
- Subject to buffer rules
- Shown on most recent version of maps
- Beaver ponds are "ponds" not "wetlands"
- Must be connected to surface waters to be subject to buffer rules

404 Wetlands

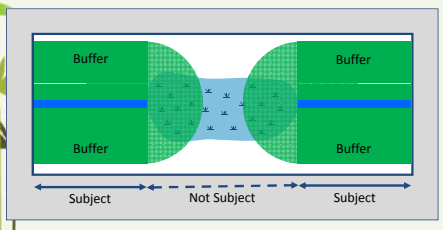
Not buffered, but can exist within a buffer

Ditch or Modified Natural Stream?

Stream Origins

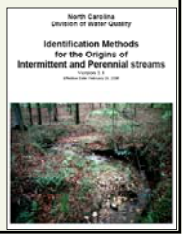


Isolated Streams

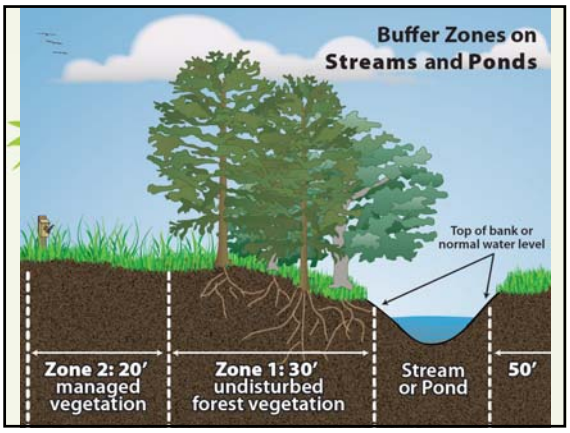


Onsite Determinations

- Where the specific origination point is in question, the local government* shall make an on-site determination
  - Also if there is a perceived inaccuracy in the maps



* DWQ will make the onsite determinations for DWQ administered activities



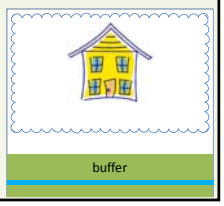
Diffuse Flow

- Diffuse flow of runoff shall be maintained in the riparian buffer by dispersing concentrated flow and reestablishing vegetation
  - Concentrated runoff shall be converted to diffuse flow before runoff enters the buffer
  - Periodic corrective action shall be taken if necessary
  - No new stormwater conveyances are allowed through the buffers except for those specified in the Table of Uses

Diffuse Flow

- If there are no impacts to any streams, wetlands, or riparian buffers, then does runoff have to be converted to diffuse flow?

YES!!!



* Unless existing use or vested rights *

Existing Uses

- For Local Governments:
  - **Present** and **ongoing** within the riparian buffer as of the effective date of a local program enforcing this rule
- For DWQ:
  - **Present** and **ongoing** within the riparian buffer as of August 11, 2009

Existing Uses

- Project requires a 401/404:
  - If these were issued before effective date
- Project requires a state permit:
  - If it has begun construction and has received all required state permits before effective date
- Project is being reviewed through NEPA:
  - If they have reached agreement with DENR on avoidance and minimization by the effective date
- FONSI has been issued for the project:
  - If it has written approval from local government or DWQ before effective date

Table of Uses

- Exempt: allowed in the buffer
  - Does not require approval
- Allowable: may occur within the buffer provided there are no practical alternatives
  - Requires written authorization
- Allowable with mitigation: may proceed within the buffer provided that there are no practical alternatives and a mitigation strategy has been approved
  - These uses require written authorization
- Uses not listed in the table are prohibited!
  - Require a variance
  - Mitigation may be required

Buffer Mitigation

- Ratios
  - Zone 1 = 3:1 Zone 2 = 1.5:1
- Location
  - Within the same subwatershed -and-
  - Same distance to the Reservoir
  - Alternative:
    - Mitigation anywhere within the subwatershed provided the proposal accounts for differences in delivery of nutrients to the Reservoir

Buffer Mitigation

- Options:
  - Pay a compensatory mitigation fee
  - Donate property or interest in property
  - Restoration or enhancement

No Practical Alternatives Determinations

- aka "Buffer Authorization"
- Required for uses listed as **allowable** and **allowable w/ mitigation**
- Local government (or DWQ) has 60 days to issue authorization
  - Can attach conditions
  - Appeals referred to Director of DWQ

Variances

- Required for **prohibited** uses
- Minor Variances
  - Impacts to Zone 2 only
  - Issued by local government or DWQ
- Major Variances
  - Impacts to Zone 1 or Zones 1 and 2
  - Issued by the EMC

QUESTIONS???

Forest Harvesting

Title 15A NCAC 02B .0267 (14)

- Requirements specific to forest harvesting in the protected riparian buffer

Forest Harvesting - Entire Riparian Buffer

- Logging decks and sawmill sites shall not be placed in the buffer

Photo by D. Larsen

Forest Harvesting - Entire Riparian Buffer

- Access roads and skid trails are prohibited, except for temporary and permanent stream crossings
  - In accordance with 15A NCAC 01I .0203
- Temporary crossings shall be:
  - in compliance with FPGs
  - permanently stabilized when activity is completed

Forest Harvesting - Entire Riparian Buffer

- Skidding shall be directed away from the stream or waterbody
- Skidding should be done to minimize soil disturbance and prevent creation of channels or ruts

Photo by USDA Forest Service

Forest Harvesting - Entire Riparian Buffer

- Timber felling shall be directed away from stream or waterbody

Photo by T. Croker, USDA Forest Service

Forest Harvesting - Entire Riparian Buffer

- Harvesting of dead or infected trees or application of pesticides necessary to prevent/control extensive tree pest and disease infestation is allowed.
  - DFR must approve practices for a specific site
  - DFR must notify DWQ of all approvals

Forest Harvesting - Entire Riparian Buffer

- Individual trees may be treated to maintain or improve health, form or vigor
- Removal of individual trees in danger of causing damage to structures or human life is allowed

Photo by NOAA

Forest Harvesting - Entire Riparian Buffer

- Natural regeneration of forest vegetation to enhance the buffer is allowed provided soil disturbance is minimized.
  - Includes planting of trees, shrubs or ground cover

Image by 4H

Forest Harvesting - Entire Riparian Buffer

- High intensity prescribed burns are not allowed
- Application of fertilizer shall not be allowed except as necessary for permanent stabilization
  - Broadcast application to adjacent forest shall be conducted to chemicals are not applied directly or allowed to drift into the riparian buffer

Forest Harvesting - Zone One

- Selective harvest in Zone One is allowed on forest lands that have a
  - Deferment for use value under forestry in accordance with G.S. 105-277.2-6
  - Forestry management plan
- Plan under either option shall meet the standards of this rule
- Copies shall be produced upon request

Forest Harvesting - Zone One

- Tracked or wheeled vehicles are permitted for selective timber harvesting where there is no other practical alternative
  - Must comply with FPGs
  - No equipment shall operate within the first 10 feet adjacent to the stream
    - Exception: stream crossings that are designed, constructed and maintained in accordance with 15A NCAC 01I .0203

Forest Harvesting - Zone One

- Soil disturbing site preparation activities are not allowed
- Trees shall be removed with minimum disturbance to the soil and residual vegetation

Photo by C. Merrit, Purdue University

Forest Harvesting - Zone One

- Selective harvesting must comply with the following provisions:
  - The first 10 feet of Zone 1, adjacent to the stream or waterbody, shall be undisturbed
    - Exception: removal of individual high value trees, provided no tree with primary roots visible in the streambank shall be cut

High Value Trees

- Pine species 14 inch or greater DBH or 18 inch or greater stump diameter
- Hardwood and wetland species 16 inch or greater DBH or 24 inch or greater stump diameter

Photo by University of Minnesota

Forest Harvesting - Zone One

- Selective harvesting must comply with the following provisions:
  - In the outer 20 feet of Zone 1, up to 50% of trees 5 inch DBH and greater may be cut and removed
    - Reentry time of harvesting is no more frequent than every 15 years, except in plantations where reentry is no more frequent than every 5 years
    - Trees remaining shall be as evenly spaced as possible

Forest Harvesting - Zone One

- Selective harvesting must comply with the following provisions:
  - In Zone 2, harvesting and regeneration is allowed in accordance with 15A NCAC 01I .0100 through .0200
    - As enforced by DFR

Photo by P. Bolstad, U. of Minnesota

Questions???

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