



5 - Riparian Buffer Requirements

Mary Halley



Module Content

- Buffer benefits
- Regulatory basis
- Riparian buffer requirements and policies



Riparian Buffer Water Quality Benefits

- Filters stormwater before discharge
- Provides evapotranspiration
- Can infiltrate rainfall (if soils allow)
- Provides stream bank stability (less bank erosion)
- Provides shade and habitat
- Provides energy, oxygen and nutrients for flora & fauna
- Slows floodwaters and allows sediment settling



Source: TreeVitalize.net



Regulatory Background

“Water Quality Buffers” are required in the Tennessee NPDES-MS4 permit for POST CONSTRUCTION

- 2003 Permit
 - New development/redevelopment that will disturb 1 acre or more
 - No disturbance allowed
 - No prescribed width or buffer design approach
 - No prescribed design approach

- 2010 Permit buffer requirements were changed to better align with the Tennessee Construction General Permit



NPDES-MS4 Permit Buffer Requirements

- 2010 Permit (Sections 4.2.5.1 and 7)
 - New development/redevelopment that will disturb 1 acre or more
 - Width of 30ft or 60ft, depending on upstream drainage area
 - Allows width averaging for 60ft buffer in some cases
 - Vegetation must be undisturbed and (preferably) native
 - Waivers or exemptions cannot be based solely on difficulty or cost

STATE OF TENNESSEE

NPDES PERMIT

NPDES GENERAL PERMIT FOR DISCHARGES

From

SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS

PERMIT NO. TNS000000

Under authority of the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.) and approval from the United States Environmental Protection Agency under the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251, et seq.) and the Water Quality Act of 1987, P.L. 100-4, operators of small municipal separate storm sewer systems are authorized to discharge stormwater runoff into waters of the State of Tennessee in accordance with the various eligibility criteria, administrative procedures, program requirements, reporting requirements, etc. set forth in parts 1 through 7 herein.

This permit is issued on: August 31, 2010

This permit is effective on: October 1, 2010

This permit expires on: September 1, 2015

Paul E. Davis
Paul E. Davis, Director
Division of Water Pollution Control

CN-0759

RDAs 2352 and 2366



Local Riparian Buffer Requirements

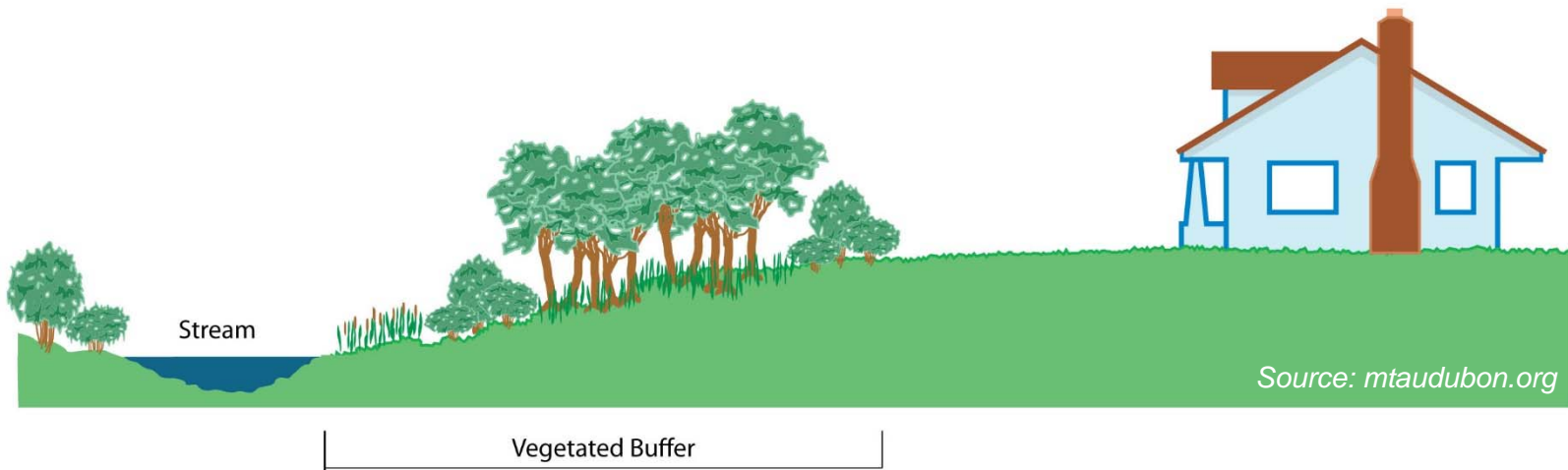
Hamilton County Water Quality Program Resolution

Section #	Requirement or Topic
3	<ul style="list-style-type: none">• Permanent Stormwater Applicability & Exemptions• Requirement for a Post Construction Stormwater System Design & Maint. Plan• Requirement for approval of a Land Disturbance Permit
4	<ul style="list-style-type: none">• Requirement to use the Hamilton County Stormwater Management Manual• Required elements of a Permanent Stormwater System Design & Mgmt. Plan• Performance Criteria for Permanent Stormwater Controls
5	<ul style="list-style-type: none">• Requirement for As-Built Plans• Requirement for a Landscaping Plan for post construction practices• Inspection and Maintenance Plans, Easements, Agreements
6	<ul style="list-style-type: none">• Riparian Buffer Requirements



Riparian Buffer Applicability

- Streams, seeps, springs, wetlands, lakes or other surface Waters of the State that are not wet weather conveyances
- Development and redevelopment that disturbs 1 acre or more
 - Includes sites smaller than 1 acre if part of a larger plan of development



Allowed encroachments or activities

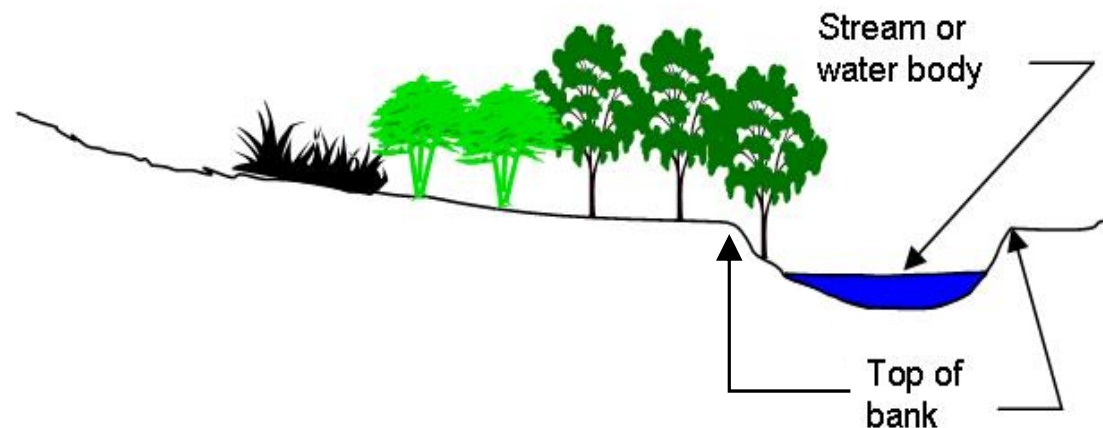
- Utility, driveway or road crossings, perpendicular or within 10° of perpendicular
- Passive recreation, biking or hiking paths and Greenways
 - Pathways should be permeable and shall not cause stormwater channelization
 - View corridors are allowed (must be approved)
- Stormwater channels necessary for positive drainage from a site (outlet protection is required)
- Stabilization practices to prevent erosion in the buffer
- Landscaping to allow for maintenance or restoration of vegetation
- Removal of individual nuisance trees



Riparian Buffer Width

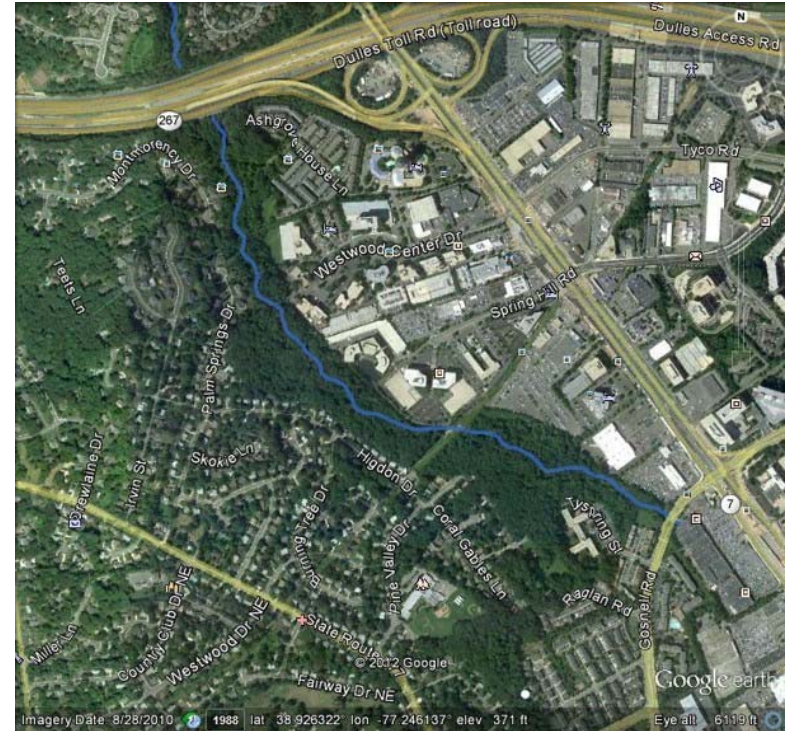
TDEC's Water Quality Status	Upstream Drainage Area	Required Minimum Width
Not listed	Less than 1 sq. mi.	30 feet
Not listed	Greater than 1 sq. mi.	60 Feet
Impaired Waters Exceptional Tennessee Waters	Any size	60 Feet

- Width applies to both sides of the stream
- Measured from Top of Bank



Riparian Buffer Width

- Buffer averaging may be allowed
 - Approved on a case-by-case basis
 - Only if 60' width cannot be maintained without encroachment
 - Difficulty or cost cannot be sole reason for requesting buffer averaging
 - Minimum width = 30'
 - Restoration Plan required
 - Must show comparable improvement to ecological and water quality
 - Stream bank restoration, re-vegetation, habitat improvements, etc.



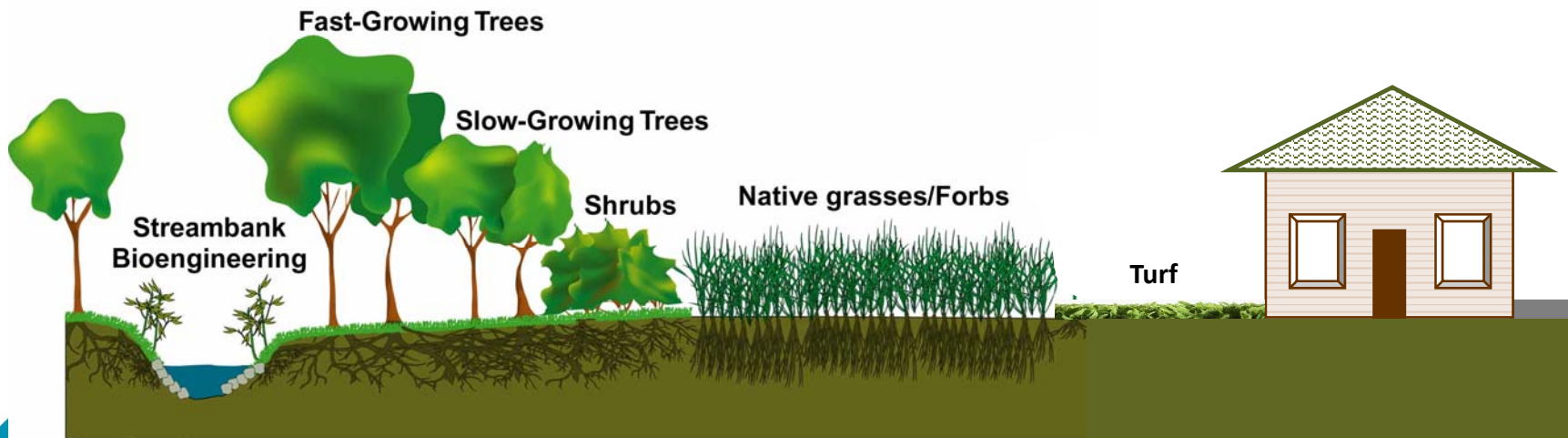
Variable width buffer, Tyson's Run in Fairfax County, VA



Riparian Buffer Vegetation & Maintenance

- Preferably native
- Must remain undisturbed
- Maintained in a manner that allows for growth of climax successional vegetation

Ideal Buffer Vegetation Types and Placement

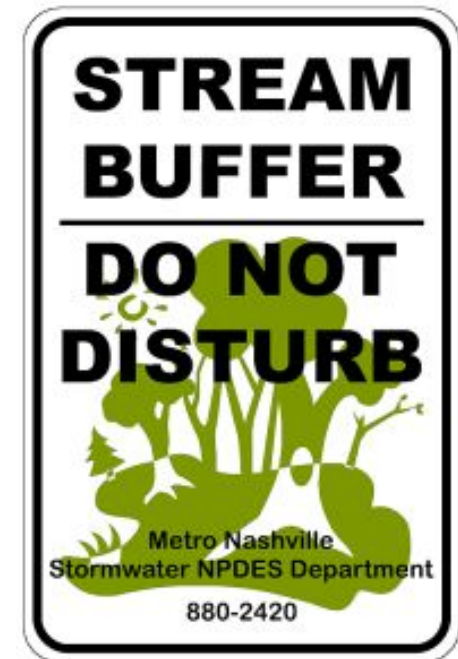


Adapted from Iowa State Forestry



Riparian Buffer General Requirements

- Grading must not result in channelized flows discharged into the buffer
- Placed in an open space lot, community lot or easement
- Protection during and after construction
 - Fencing and flagging required during construction
 - Included in Inspection and Maintenance Agreement
 - Signage is encouraged at all times
- Protection and maintenance is the responsibility of the Property Owner



Module Topic Summary

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- Riparian buffer requirements and policies





Questions?

