

	Policy: Lake and Stream Vegetative Buffers	Effective Date: September 18, 2012
	Policy Number: WR-02	Revision Effective Date:
		Page 1 of 6
	<hr/> Bobby G. Kilgore, Mayor	<u>Water Resources</u> Responsible Party

I. Purpose

The City of Monroe desires to provide the highest quality drinking water to its customers. Toward that end, the City is committed to maintain vegetative buffers around City owned lakes and adjacent to all perennial and intermittent streams in City jurisdiction. This will be accomplished consistent with the City's Unified Development Ordinance (UDO), Stormwater Management Ordinance, and State of North Carolina standards and requirements. This policy shall apply to all property located within the City's jurisdiction which includes all property within the corporate limits of the City and all city-owned property outside the City limits. Private property located outside of City jurisdiction is governed by State of North Carolina and Union County or other municipality buffer regulations.

II. Definitions

Except as the context specifically indicates otherwise, the following terms and phrases, as used in this policy, shall have the meanings hereinafter designated:

"Buffer Management Agreement" shall mean a written agreement between the City of Monroe and the owner of property adjacent to a lake or stream buffer whereby that owner commits to certain buffer management activities. Said activities can range from a comprehensive Engineering Landscape Plan to other activities like tree limb cutting, shrub trimming, tree sapling thinning/removal, mowing, and undergrowth and invasive plant removal. Agreements are non-transferable and may be structured for an indefinite time. The City will inspect buffer areas to ensure compliance with the terms and conditions of the agreement.

"Engineered Landscape Plan" shall mean a plan submitted by a North Carolina Registered Engineer or Landscape Architect that is customized for a specific property and associated vegetative buffer area, designed to meet the water quality objectives of this policy.

"Invasive and Noxious Plant Species" shall generally mean undesirable plant species, defined in the NCDENR Guidelines for Riparian Buffer Restoration (October 2004), which invades a buffer area and competes with desirable woody shrub and tree species.

"NCDENR" shall mean the North Carolina Department of Environment and Natural Resources.

"Vegetative Buffer" shall generally mean an undisturbed area of native plant vegetation, or a restored area of vegetation, adjacent to a lake, perennial stream, or intermittent stream. The buffer shall be a plant community consisting of woody trees, shrubs, grasses, and other species at densities defined herein. Disturbance and/or vegetation management in said buffer shall require advance approval via a Buffer Management Agreement.

"View Corridor" shall mean an area of allowable plant trimming and/or plant spacing designed to enhance the view of a lake or stream area by the adjacent private property where an occupied residence exists.

III. Required Buffer Dimensions, Relationship to Property Ownership

The City of Monroe Unified Development Ordinance requires a minimum buffer width of 35 feet for low density development or vacant land. The buffer is measured from the most landward limit of a stream bank, or normal

Policy No.: WR-02	Policy Name: Lake and Stream Vegetative Buffers	Page 2 of 6
--------------------------	--	--------------------

(full) pond level of a City lake, extended landward perpendicularly. The following provisions are found in the Zoning Ordinance and Stormwater Management Ordinance.

156.180 Secondary Impact Mitigation (A) Buffers (1) A 35 foot undisturbed vegetated buffer is required along all perennial and intermittent stream channels.

159.302 Impervious Surface requirements (A) Setback requirement. (1) All impervious surfaces, except for roads, paths, and water dependent structures, shall be located at least 35 feet landward of all perennial and intermittent surface waters. Development approved in conjunction with a conditional zoning district or special use permit shall have an impervious surface setback of 50 feet landward of all perennial or intermittent surface waters.

City property ownership around the City owned lakes varies as illustrated in Figure 1. This means that there are some areas where the City may, by fee simple ownership, own the entire required buffer area, while in other areas property ownership of the buffer include both City property and private property. On stream buffer areas, property ownership is typically private. Buffer regulations and requirements apply regardless of property ownership. Private property owners adjacent to streams and City lakes are encouraged to practice environmental stewardship to prevent pollutants from any source (fertilizers, petroleum, oils, pesticides, etc.) from migrating into surface water and/or ground water.

IV. Buffer Plant Densities and Plant Species Composition

To function effectively, plant species within the buffer must have a minimum equivalent density of 320 trees per acre at maturity. A mature tree is considered one with a trunk diameter of at least six (6) inches measured at a height four (4) feet above the ground surface level. Plant distribution and composition must maintain diffuse flow of rainfall runoff through the buffer. Since a mixture of woody shrubs and trees is desirable, three (3) woody shrubs shall be considered equivalent to one (1) tree, with no greater than 50% tree substitution. Trees and shrubs planted or maintained on City property shall be native plant species. Plantings on private property may be native or ornamental as selected by the owner. Areas in between the spacing of trees and shrubs may be other approved ground covers and grasses.

The City may undertake certain restoration activities on City property to achieve the desired vegetation criteria within buffer areas. The City may also enter into a Buffer Management Agreement with property owner's adjacent to streams or City owned lakes defining special conditions wherein the property owners can establish and maintain the required buffer. All plantings for City property shall be selected using the NCDENR Guidelines for Riparian Buffer Restoration (October 2004).

For properties with an occupied residence, issued a certificate of occupancy prior to January 1, 2012, and for vacant lots less than two (2) acres in size located in an established subdivision, the following shall apply:

- Plant species within the buffer may have a minimum equivalent density of 160 trees per acre at maturity, subject to the same size, species, and substitution allowance defined above.
- The tree spacing in up to 25% of the buffer area (calculated on a property line/buffer frontage basis), may be up to the length of the 25% frontage measurement, not to exceed fifty (50) feet tree spacing.

These criteria will also apply to larger land parcels immediately adjoining properties with occupied residences as defined above, so long as the adjoining properties have the same owner as the occupied property.

Policy No.: WR-02	Policy Name: Lake and Stream Vegetative Buffers	Page 3 of 6
--------------------------	--	--------------------

V. Allowable Uses - The following table defines allowable/prohibited uses and activities within the protected buffer area. Use/activities shown as prohibited may be allowed by special Buffer Management Agreement, or pursuant to the UDO.

Use/Activity	City Property Within Buffer	Private Property Within Buffer
Tree Cutting	NO	NO
Tree Trimming	NO	NO
Vegetation Removal	NO	NO
Soil Grading	NO	NO
New Planting by Private Party	NO	YES
Weed Eating (String Trimmer)	NO	NO
Weed Eating (Steel Blade)	NO	NO
Herbicide Spraying	NO	NO
Mowing	NO	NO (1)
Parking of Vehicles, Trailers, Etc.	NO	NO
Material Storage	NO	NO
Blowing/dumping Leaves Into the Buffer or Lake	NO	NO
Burning of Leaves, Wood, Charcoal	NO	NO

(1) Ongoing and Existing Uses on Private Property May be Grandfathered by UDO Variance

VI. View Corridor

The City may enter into a special Buffer Management Agreement with property owners adjacent to buffer areas to allow certain tree limb removal, tree sapling removal, mowing, and/or shrub trimming to create a *view corridor* where an occupied residential dwelling exists. An Engineered Landscape Plan may also form the basis for establishing a view corridor. As part of the Agreement, terms and conditions shall be established to ensure the buffer plant densities and composition reaches the standards defined above. Buffer Management Agreements can apply to both City owned property and private property. Residential dwelling owners interested in pursuing such an Agreement may contact the City of Monroe Water Resources Department.

The following conditions apply:

Policy No.: WR-02	Policy Name: Lake and Stream Vegetative Buffers	Page 4 of 6
--------------------------	--	--------------------

- Trees greater than fifteen (15) feet in height may have limbs removed to a height not greater than 50% of the total tree height, and never greater than 25 feet from ground level
- Woody shrubs may be trimmed to a height not less than three (3) feet from ground level.
- Ground covers and grasses may be trimmed or mowed to not less than a 4-inch height.
- Where tree density exceeds 320 trees per acre, thinning or removal of tree saplings may be allowed.
- Special tree densities and spacing for existing residential properties and vacant lots, as defined in Section IV, may also apply.

Additionally, a one-for-two tree density credit will be given for each mature tree growing within the area 15 feet immediately landward from the outermost buffer edge (I.E. the area 35-50 feet from lake/stream edge). In other words, for every two (2) mature trees growing in this area, the tree density in the required 35-foot buffer may be reduced by one (1) tree to provide additional open space and view.

VII. Control and Removal of Invasive and Noxious Plant Species or Other Undergrowth Plant Species

Subject to a Buffer Management Agreement, invasive and noxious plant species and other undesirable plant species may be removed consistent with the definition included herein, and subject to the required plant densities being maintained.

VIII. Lake Access Through Buffer Areas

Walking access to streams and City Lakes is allowed throughout the buffer area. Driving of vehicles, trailers, etc. is prohibited except in compliance with 159.302. The rules for fishing, boating, sailboats, etc. are contained in Chapter 54 of the City Code of Ordinances. Small non-motorized boats (kayaks, canoes, and single hull fishing boats, including electrical propulsion) may be carried through the buffer for launching, and stored in the buffer area during lake open season if the adjacent property maintains a valid Lake Access Permit for the boat being launched. Boats shall be removed from the buffer area and stored during the closed season. No other boat launching or storage in the buffer area is allowed.

IX. Construction on Property Adjacent to a Buffer Area

For construction related activity, an approved landscape plan addressing the vegetation buffer area must be submitted prior to the occurrence of any land disturbing activity on any property. A tree preservation plan consistent with this policy is required as part of the landscaping plan. The plan must show that there will be no disturbance within the Critical Root Zone (CRZ) of trees to be retained in the buffer. A disturbance is considered trenching, placing backfill, driving or parking equipment, and the dumping of any materials detrimental to plant health in close proximity to a buffer boundary. Activities outside of the buffer and its boundary are regulated by the UDO and erosion control requirements.

Protective barricades shall be placed around all buffer areas designated to be saved in the development areas prior to the start of land disturbance activities. Protective barricades shall remain in place until such development activities have been completed in accordance with these standards. The area within the protective barricade shall remain free of all building materials, dirt or other construction debris, construction traffic, storage of vehicles and materials. Grading shall not take place within the drip line of the existing trees to be protected.

X. Inspection and Enforcement

Policy No.: WR-02	Policy Name: Lake and Stream Vegetative Buffers	Page 5 of 6
--------------------------	--	--------------------

Vegetative buffers in existing areas will be inspected for compliance with this policy and City Ordinances. For new development, buffers will be protected and/or established consistent with these requirements during the development review process.

Failure to adhere to the requirements of this policy and related City Ordinances, or removal of any buffer vegetation without advanced approval, will result in enforcement action by the City. This will include civil and criminal actions to the fullest extent allowed by law. Additionally, State of North Carolina enforcement actions may include penalties up to \$25,000 per day per violation.

For buffer violations where vegetation has been removed, cut, or disturbed without advanced approval, the buffer area shall be replanted in kind to its original condition as outlined in a Notice of Violation issued by the City. Equivalent tree trunk diameters shall be used to estimate the required number and size of plants to be replanted.

XI. Variances

Applications for a variance from this policy shall be submitted to the Board of Adjustment by filing a written application with the Director of Water Resources. Applications for a variance shall be handled in the same manner as applications for UDO variances pursuant to Section 156.66 of the Monroe Code of Ordinances.

XII. Future Changes

The City of Monroe reserves the right to modify this policy and associated Ordinances as mandated by future Federal or North Carolina regulations.

