WATeR Recommends a Waterfront "Riparian Buffer Zone"
For Tellico Reservoir Lakefront Homeowners

A riparian buffer zone is an area beside a body of water that serves as a zone of protection between the water and upland areas such as grass lawns, roads and driveways, and farmland. The buffer zone acts to improve water quality by filtering, trapping, and metabolizing fertilizers and pesticides that are carried by rainwater runoff from the upland areas. Natural vegetation planted in the riparian buffer zone can serve as wildlife habitat for amphibians, as well as a low maintenance, aesthetically pleasing way to reduce shoreline erosion.

Why does Tellico Reservoir need riparian buffer areas?

1. Tellico Reservoir is "greening up" with algae; algae growth is increased by phosphate in fertilizers used by homeowners
2. More lakefront homes = more runoff of nutrients (e.g., phosphate lawn fertilizers) and other pollutants from yards into Tellico Reservoir
3. Nutrient and pollutant loading of the Reservoir can be reduced by a "riparian buffer zone" of native, low maintenance, low profile plantings installed along the lakefront to reduce erosion and capture some of the runoff of fertilizers, pesticides, and sediment from lawns

What a Homeowner Can Do to Protect Reservoir Water Quality:

1. Reduce the use of phosphate fertilizer on your lawn
2. Maintain any trees along the shoreline to stabilize the soil against erosion, and to shade and cool the shallow area of water next to the shoreline
3. Install a riparian buffer zone of 15 feet between your grass lawn and the lakeshore (and above the shoreline row of trees, if any), using the "555 plan":
    - 5-foot width of native, deep-rooted clumping grasses and dense shrubs along the shoreline to reduce bank erosion;
    - 5-foot width of shallow swale with evergreen rushes, ferns, irises, etc., to retain rain runoff, excess fertilizer, and pollutants; and a
    - 5-foot width of low shrubs and/or perennial flowering plants bordering your lawn, to hold mulch and allow water infiltration into the soil and swale.

Installation Plan

1) Remove the turf grass from a 15-ft width of ground along the waterfront for your riparian buffer site; an herbicide labeled for aquatic use (e.g., "Rodeo") may be used, if no detergent or other surfactant is added to it
2) Divide the site in thirds to create 1) a 5-ft width of lakefront for planting of grasses, sedges, and low bushy shrubs next to the water, 2) a 5-ft width of shallow swale, that is dug and planted as a "ditch" to capture rainwater runoff, and 3) a 5-ft width of ground for planting and mulching of low shrubs, grasses and flowers, next to your yard turf grass

3) Install walking paths of small rock along the left and right edges of the site, and/or a small wood bridge across the swale, to facilitate your continued entry into the site for maintenance
4) Purchase and install low profile plants that are native to TN. Start planting next to the water, then in the swale, and last between the swale and your lawn
5) Lay down a few "decorative" cedar logs and/or rock edging along the front of the site, if desired, to demarcate the riparian zone from your turf grass
6) Take photos of the site at various stages of installation, for your records
7) Maintain and/or improve the site as needed after installation

Plantings to Consider

- **Low maintenance, perennial, native plants that reduce erosion**
- **Low profile plants that will not block view of the water**
- **A mix of plants that "green up" rapidly in the spring, with others that flower in summer and fall**

Example Site Plant List*

Shrubs

1) Golden St. Johnswort *(Hypericum frondosum*)
2) Bushy St. Johnswort (*Hypericum densiflorum*)
3) Virginia sweetspire (*Itea virginica*)
4) Summersweet (*Clethra alnifolia*), low-growing varieties
5) Buttonbush (*Cephalanthus occidentalis* 'sugarshack', a dwarf variety)
6) Inkberry Holly (*Ilex glabra*)

Flowers

1) White beardtongue (*Penstemon digitalis)*
2) Summer, meadow, or creeping phlox (*Phlox* spp.)
3) Stokes aster (*Stokesia laevis*)
4) Carolina bushpea (*Thermopsis villosa*)
5) Blue Star (*Amsonia tabernaemontana*)

Grasses and Grass-like Ground Covers

1) Muhly grass (*Muhlenbergia capillaris* 'white cloud')
2) Lovegrass, purple (*Eragrostis spectrabilis*)
3) Poverty rush (*Juncus tenuis*)
4) Sedges (*Carex* species)
5) Blue-eyed Grass (*Sisyrinchium angustifolium*, a small lily)

Wetland Plants for the Swale

1. Soft rush (*Juncus effusus*)
2. Iris, Southern Blue Flag (*Iris virginica*)
3. Frank's sedge (*Carex frankii*)
4. Cherokee sedge (*Carex cherokeensis*)
5. Cinnamon and Royal Ferns (*Osmunda* spp.)
6. Yellowroot (*Xanthorhiza simplicissima*)
7. Lizard's tail (*Saururus cernuus*)

Ground Covers for Shade

1) Green-and-Gold (*Chrysogonum*)
2) Wintergreen (*Gaultheria procumbens*)
3) Wild Ginger (*Asarum canadense*)
4) Sedge, Pennsylvania (*Carex pensylvanica*)

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* plant selection depends on the conditions of sun exposure, soil moisture and drainage, and soil acidity at each site