REEMS CREEK NURSERY

The exciting world of slope stabilization **A Garden Guide**

Slopes can be daunting, but with careful planning they can be dramatic, beautiful - and best of all - safely stabilized with plants.

Consider terraces, steps, boulders, patios, walls, and other hardscaping features you may wish to incorporate into your design before planting.



For the best slope stabilization and protection, use a variety of mostly native trees, shrubs, perennials, and grasses. Different types of plants will have various types and depths of root systems, which can grow together and create an effective underground mesh that can soak up water and hold soil. Foliage from the plants also protects the soil from rain. By using plants and their roots to slow down the movement of water down the hill, you can help preserve what you have. If your slopes are severe, use only smaller trees and consider consulting professionals for design and installation.

Slopes can be sunny dry hot dark wet cool - but they all need plants with sturdy root systems. Pay attention to the plants' light and water needs. Water-loving plants are best at the **<u>base of the slope</u>** or along a streambank. Those that are more drought tolerant can be in **<u>upper to mid areas</u>** of the slope. <u>All of these plants in this document tend to have a more robust and vigorous nature</u>. Be sure to remove all weeds prior to planting.

Drip irrigation or soaker hoses can be excellent, low maintenance choices for watering more delicate or hard to access areas.

During installation, be sure to mulch thoroughly (2-3"), to help hold the soil while the plants get established. Mulch will also help prevent weeds and invasive plants from getting established. Do not allow the mulch to touch the crown of the plants.

If your slope is unstable and/or eroding rapidly, contact your local Soil and Water Conservation District for consultation: Buncombe County (828) 250-4785, Haywood County (828) 452-2741, Henderson County (828) 697-4949, Madison County (828) 649-9099, McDowell County (828) 652-4434, Yancey County (828) 682-2466.



Native Trees - Acer rubrum (Red Maple), Acer saccharum (Sugar Maple), Amelanchier (Serviceberry), Carpinus caroliniana (American Hornbeam), Cercis (Redbud), Cornus florida (Dogwood), Gleditsia triacanthos (Honey Locust), Morus rubra (Red Mulberry), Quercus alba (White Oak), Quercus rubra (Red Oak), Taxodium distichum (Bald Cypress)

Native Shrubs - Aesculus parviflora (Bottlebrush Buckeye), Callicarpa americana (American Beautyberry), Aronia (Chokeberry), Clethra alnifolia (Summersweet), Comptonia peregrina (Sweetfern), Cornus amomum (Silky Dogwood), Cornus sericea (Red Twig Dogwood), Corylus americana (Hazelnut), Diervilla (Bush Honeysuckle), Fothergilla (Witch Alder), Hamamelis virginiana (American Witchhazel), Hibiscus moscheutos (Swamp Rose Mallow), Hypericum frondosum (St. John's Wort), Ilex glabra (Inkberry Holly), Ilex verticillata (Winterberry Holly), Itea virginica (Virginia Sweetspire), Juniperus virginiana (Eastern Red Cedar), Kalmia latifolia (Mountain Laurel), Leucothoe fontanesiana syn. Eubotrys fontanesiana (Doghobble), Physocarpus opulifolius (Ninebark), Potentilla fruticosa (Shrubby Cinquefoil), Rhododendron, Rosa virginiana (Virginia Rose), Rhus aromatica (Fragrant Sumac), Rhus typhina (Staghorn Sumac), Sambucus canadensis (Elderberry), Symphoricarpos albus (Snowberry), Vaccinium corymbosum (Highbush Blueberry), Viburnum cassinoides (Witherod Viburnum), Viburnum dentatum (Arrowwood), Viburnum prunifolium (Black Haw), Xanthorhiza simplicissima (Yellowroot)

<u>Non-native Shrubs</u> - *Abelia, Chaenomeles* (Flowering Quince), *Cornus alba* (Siberian Dogwood), *Cotoneaster, Forsythia, Juniperus* (Junipers), *Microbiota decussata* (Siberian Cypress), *Taxus cuspidata* (Japanese Yew), *Weigela*

Native Perennials - Achillea millefolium (Yarrow), Aster, Baptisia australis (Blue Wild Indigo), Coreopsis (Tickseed), Dryopteris ludoviciana (Southern Wood Fern), Eupatorium / Eutrochium (Joe Pye Weed), Heliopsis helianthoides (Ox-eye Sunflower), Lobelia cardinalis (Cardinal flower), Monarda (Bee Balm), Phlox divaricata (Woodland Phlox), Phlox stolonifera (Moss Phlox), Polystichum acrostichoides (Christmas Fern), Pycnanthemum muticum (Mountain Mint), Rudbeckia hirta (Blackeyed Susan), Solidago (Goldenrod), Vernonia (Ironweed)

Non-native Perennials - Stachys

Native Grasses or Grass-like Plants -

Andropogon gerardii (Big Bluestem), Carex



appalachica (Appalachian Sedge), Chasmanthium latifolium (Northern Sea Oats), Festuca rubra (Creeping Red Fescue), Juncus effusus (Soft Rush), Muhlenbergia (Muhly Grass), Panicum virgatum (Switchgrass), Schizachyrium scoparium (Little Bluestem), Sporobolus heterolepis (Prairie Dropseed)

Non-native Grasses or Grass-like Plants - *Eragrostis curvula* (Weeping Lovegrass)

<u>Native Groundcovers</u> - *Chrysogonum virginianum* (Green and Gold), *Iris cristata* (Dwarf Crested Iris), *Phlox subulata* (Creeping Phlox), *Pachysandra procumbens* (Allegheny Spurge)



Non-native Groundcovers -

Ajuga reptans (Bugleweed), *Delosperma* (Ice Plants), *Dianthus* (Pinks), creeping Junipers, *Lamium* (Dead Nettle), *Lysimachia nummalaria 'Aurea'* (Creeping Jenny), *Mazus reptans* (Creeping Mazus), *Pachysandra terminalis* (Japanese Spurge), *Rubus rolfei* (Creeping Raspberry), Sedum

Additional Notes

Steep slopes may require a combination of permanent walls, biodegradable jute mats, biodegradable coir rolls, and more. Retention walls will provide immediate stabilization, buying time for the plants (and their roots) to get established. Avoid using plastic landscaping fabric or high maintenance plants.



It can be helpful to create a long term plan for the area. Concrete walls and structures will eventually need repair or replacement. Native trees may seed themselves as the area returns to natural forest. Deciding whether to embrace natural forest succession or not will help inform management and maintenance decisions going into the future.



"Natural regeneration on a restored hillslope may increase the diversity of native flora and fauna in the area (Cavaillé et al. 2013). Higher biodiversity can enhance overall ecosystem functioning such as nutrient cycling and resilience to disturbances such as drought and hurricanes (Loreau et al. 2001)." - Stokes A, Douglas G, Fourcaud T, et al., 2014, Ecological Mitigation of

Hillslope Instability: Ten Key Issues Facing Researchers and Practitioners. Plant and Soil. 377: 1–23.

Many thanks to Fine Gardening (To see more information go to FineGardening.com), Green Jay Landscaping - <u>https://www.greenjaylandscaping.com/</u>, Regenerative Design Group - <u>https://www.regenerativedesigngroup.com/</u>, Spring Lake Design -<u>http://www.springlakedesign.com/</u>, and Wellnesscapes Design -<u>https://wellnesscapes.com/</u> for use of their photos. Version 1.1 Dec 21



76 Monticello Road Weaverville, NC 28787 828-645-3937 https://reemscreek.com/