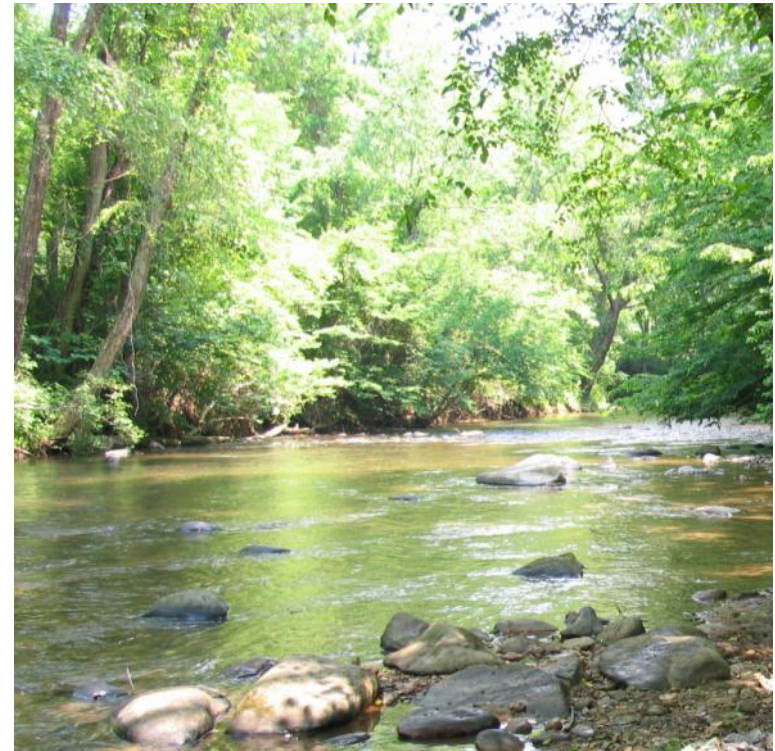


## Buying Livestakes in NC

- ◆ **Carolina Wetland Services, Inc.;** Charlotte, NC  
(866) 527-1177 [www.cws-inc.net](http://www.cws-inc.net)
- ◆ **Coastal Plain Conservation Nursery;** Edenton, NC  
(252) 482-5707 [www.coastalplainnursery.com](http://www.coastalplainnursery.com)
- ◆ **Deerwood Nursery;** Zirconia, NC  
(828) 606-3625 [www.deerwoodnursery.com](http://www.deerwoodnursery.com)
- ◆ **Foggy Mountain Nursery;** Creston, NC  
(336) 384-LEAF [www.foggymntn.com](http://www.foggymntn.com)
- ◆ **Lumber River Native Plants;** Gibson, NC  
(336) 601-8787 [www.ncnativeplants.com](http://www.ncnativeplants.com)
- ◆ **Mellow Marsh Farm;** Siler City, NC  
(919) 742-1200 [www.mellowmarshfarm.com](http://www.mellowmarshfarm.com)
- ◆ **Native Roots Nursery;** Clinton, NC  
(910) 385-8385 [www.nativerootsnursery.com](http://www.nativerootsnursery.com)



## Getting Technical Advice

- ◆ **Army Corps of Engineers**  
[www.saw.usace.army.mil/Missions/RegulatoryPermitProgram.aspx](http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram.aspx)
- ◆ **North Carolina Cooperative Extension** (find your county)  
[www.ces.ncsu.edu](http://www.ces.ncsu.edu)
- ◆ **NC Division of Soil and Water Conservation**  
(find your district)  
[www.ncagr.gov/SWC/](http://www.ncagr.gov/SWC/)
- ◆ **NC Division of Water Quality**  
[portal.ncdenr.org/web/wq/](http://portal.ncdenr.org/web/wq/)

## Benefits of Vegetated Buffers

- ◆ Intercepts pollution - acts like a sponge to absorb extra fertilizer, pesticides, heavy metals, etc.
- ◆ Stabilizes streambanks - deep root systems of trees and shrubs hold the soil in place.
- ◆ Stores floodwater in soils and slows flow.
- ◆ Provides habitat and food for wildlife.
- ◆ Moderates water temperatures for aquatic species.
- ◆ Creates a sense of place and reduces noise.
- ◆ Saves money by reducing property damage, less maintenance and requires little to no chemical treatment.

## Livestakes Species include:

Livestakes are cuttings from dormant woody trees or shrubs found along streambanks.

Buttonbush, *Cephalanthus occidentalis* -part shade to full sun  
Silky Dogwood, *Cornus amomum* -full sun to part sun, some shade  
Ninebark, *Physocarpus opulifolius* -sun to shade  
Silky Willow, *Salix sericea* -full sun to shade  
Elderberry, *Sambucus nigra* -sun to part shade



Silky Willow © Alan Cressler



Buttonbush



Silky Dogwood © Jon Calabria



Ninebark © David Emmitt



Elderberry © Alan Cressler

## Harvest Your Own Livestakes

Best time to cut and plant livestakes: November-February

1. Cut stakes from long, upright branches (2 ft long by thumb-width in diameter). Remove no more than 5% of the parent plant.
2. Make an angled cut on the branch just below a leaf node. Measure about 2 ft and make a straight cut above a leaf node.
3. Immediately remove leaves and small branches after cutting stakes. These branches or “whips” can be pushed into the streambank as well.
4. Keep livestakes wet in a bucket until ready to plant. Never leave stored livestakes in the sun or let them dry out. For best results, plant livestakes within 24 hours.

## Planting Livestakes

### Helpful Materials:

Gloves  
Hammer (dead blow, mallet, etc.)  
Rebar or pilot hole starter  
Ruler  
Hand pruners or loppers  
Livestakes in bucket of water (harvested or ordered)



**Step 1:** Measure 6 in - 12 in from the water surface and angle the rebar perpendicular to the streambank. Hammer a pilot hole with rebar and pull out after starter hole is made.



**Step 2:** Using hand pruners, scar the pointed end of the livestake (pointed end goes into the ground).



**Step 3:** Orient livestake with leaf buds facing upward. Hand push or gently hammer livestake  $\frac{3}{4}$  of the length into the streambank. Make sure to leave 3-4 inches above soil line.



**Step 4:** Plant every 2 ft - 3 ft in a triangular pattern (spacing about the length of the livestake) and begin again.

