Landscaping for Wildlife with Native Trees and Shrubs

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Resources

http://go.ncsu.edu/nativeplants
Tree Planting…

• Trees did not arrive as scheduled…
• Reschedule demo in the next two weeks.
Habit Loss and Fragmentation
Traditional Landscapes Less Biodiverse
Dominated by Non-Native Plants
Plants are the Foundation of Food Webs

Plants capture and convert the sun’s energy into a form that can be consumed by other organisms.
Herbivorous Insects are Host-specific

• Only feed on certain species  
  – 90% are specialists  
• Biochemical co-evolution  
• Native insects need native plants

Monarchs aren’t the only pick eaters!
Native Plants Support More Insects

**Herbivore Biomass**

**Species Richness**
Fewer Insects = Less Wildlife

• Nearly all Passerines rear their young on insects, not seeds or berries
• Non-native trees do not support caterpillar populations birds need to rear their young
Proportion of Insect Taxa in Decline

Sanchez-Bayo & Wyckhuys 2019
Biological Conservation 232 (8-27)
Major Drivers of Decline by Taxa

Sanchez-Bayo & Wyckhuys 2019
Biological Conservation 232 (8-27)
What makes good bird food?
Lepidoptera
Moths and Butterflies

Larvae called *caterpillars*
Lepidopteran Diversity
Coleoptera

Beetles

Larvae called ‘grubs’

Two elytra + Two flight wings
Coleopteran Diversity

Leaf-eating Beetles

Long-horned Beetles

June Beetles
Hemiptera

Bugs

Rostrum:
piercing/sucking mouthpart

Hemelytra
Hemipteran Diversity
Other Herbivorous Insects

Katydids (Orthoptera)

Walkingsticks (Phasmatodea)
A Brief Intro into Tree & Shrub Care

More to come in follow-up demonstration
Planting Trees and Shrubs

- Root flare might be visible on certain trees.
- Point where top-most root emerges from trunk within 2 inches of surface.
- Landscape grade at least 2 - 3 inches below top of root ball.
- Top of backfill is 90% of root ball height.
- 90% of root ball side covered with mulch, not soil.

Ed Gilman
UF IFAS Extension
Work with the natural shape of plants

Forsythia (not native) is a LARGE arching shrub
Pruning Trees and Shrubs

1) Competing leaders
2) Malformed branches
3) Crossing branches
4) Water sprouts
5) Narrow angles
6) Broken branches
7) Limb up later in life
Watering

Establishment
- 2 gal per caliper inch
- 5 gal. pot – 3-5 gal, water
- 2-3x per week
- Plant in fall – less water

Maintenance
- May need supplemental watering during drought, every 10 days
- Wet to 1-3’ deep
Mulching

2-3” Layer
• Pine bark/nuggets
• Pine Straw
• Wood chips
• Leaves

NO VOLCANOES!
Protecting Young Trees from Deer

• Cages 6’ tall
• Until lowest foliage > 6’
A New Paradigm

- Select landscape plants based upon traditional factors:
  - Appearance
  - Performance
  - Adaptation to site conditions

- PLUS ability to sustain native species and support ecosystem health
Structural Diversity

Canopy

Understory

Shrub

Flowers/Groundcover
A Few of Matt’s Favorite
Native Trees, Shrubs, and Vines

- Amount of Sunlight
- Soil/drainage requirements
- Mature dimensions, Height x Width
- Wildlife Benefits
- Bloom Period
Oaks
*Quercus* spp.

Support hundreds of species!

- Acorns
- Leaves
- Habitat
Oaks in Landscapes

Most commonly planted:

• Willow oak *Quercus phellos*
• Pin oak *Quercus palustris*
More Oaks

- **Shumard Oak** *Quercus shumardii*
- **White Oak** *Quercus alba*
- **Swamp White Oak** *Quercus bicolor*
- **Overcup Oak** *Quercus lyrata*
- **Red Oak** *Quercus rubra*
- **Scarlet Oak** *Quercus coccinea*
River Birch \( Betula \) nigra

- Part shade to full sun
- Moist, survives drought, flooding
- 40-60’ x 40-60’

- Summer
- Fall-Winter
- Lep. food, seeds for birds, habitat
In spring, aphids may cause leaf distortion but attract ladybugs and do not damage tree.
Redbud
*Cercis canadensis*

- Part shade to full sun
- Clay, moist sands, brief floods
- 15-30’ x 20-40’
- Spring
- Fall-Winter
Redbud
*Cercis canadensis*
Redbud Cultivars

‘Forest Pansy’
‘Merlot’
‘Burgundy Hearts’

‘Hearts of Gold’,
‘Rising Sun’

‘Royal White’
Serviceberry
Amalanchier spp.

Part shade to full sun

Clay/moist soils, drier soils in shade

15-30’ x 12-15’

Spring-Summer
Serviceberry
Amalanchier spp.

Pollinators, birds eat fruit, caterpillar food
Cedar Quince Rust on Serviceberry
American Holly

*Ilex opaca*

- Part shade to full sun
- Moist, well-drained
- Flooding, drought
- Spring
- Fall-Winter

10-20’ x 30-50’
American Holly

*Ilex opaca*

Henry’s Elfin Host

Robins & thrushes, Mockingbirds, thrashers waxwings, woodpeckers
American Holly

*Ilex opaca*

Male Flowers

Female Flowers
American Beautyberry
*Callicarpa americana*

- Part shade to full sun
- Moist, well-drained, clay, acid
- 6’ x 6’
American Beautyberry

Sweat Bees, butterflies

Summer

Rustic Sphinx Moth

Fall-Winter

Thrushes & Robins
Trashers & Mockingbirds
**Possumhaw Viburnum**

*Viburnum nudum*

- Full sun to part shade
- Moist to wet, tolerates dry
- 6-12’ x 6-12’
- Blooms in Spring
- Berries in Summer-Fall
Viburnum nudum

Thrashers & Mockingbirds
Waxwings

Spring Azure Host

Snowberry Clearwing Moth
Other Native Viburnums

*Viburnum prunifolium*
Blackhaw Viburnum

*Viburnum obovatum*
Small-leaf Viburnum
Red Buckeye
*Aesculus pavia*

Part-shade to Sun

Moist to wet

Spring

Summer

12-15’ x 12-15’

Hummingbirds, squirrels, Caterpillar food
Other Native Buckeyes

*Aesculus parviflora*
Bottebrush Buckeye

*Aesculus sylvatica*
Painted Buckeye
Sweetbay Magnolia
*Magnolia virginiana*

- Part-shade to Sun
- Moist to wet, tolerates flooding
- 20-50’ x 15-35’
- Caterpillar food, fruit for birds, pollinated by beetles & bees

*Spring* and *Fall*
Spicebush
*Lindera benzoin*

- **Part-shade to Sun**
- **Moist, clay, flood tolerant**
- **6-15’ x 6-12’**

*Flowering in Spring, Fruit in Fall*
Spicebush
*Lindera benzoin*

Thrushes & Robins
Tanagers & Vireos

Spicebush Swallowtail
Dwarf Fothergilla

*Fothergilla gardenii*

- Part-shade to sun
- Moist to wet
- 2-3’ x 2-4’
- Bee pollinated, cover for birds, deer resistant
- Spring
- Fall

Moist to wet

Bee pollinated, cover for birds, deer resistant
Sweet Pepperbush
Clethra alnifolia

Part-shade to Sun

Moist, well drained

3-8’ x 4-6’

Summer  Fall-winter

Hummingbirds, butterflies, bees
Caterpillar food (many), birds (seeds)
Coral Honeysuckle
*Lonicera sempervirens*

- Part sun to full sun
- Moist to wet
- Summer: flowers
- Fall-winter: fruit
- 8-15’ x 3-6’
- Hummingbirds, butterflies, bees
  - Caterpillar food (many), birds (fruit)
Coral Honeysuckle

*Lonicera sempervirens*
Carolina Jessamine
*Gelsemium sempervirens*

- **Full sun**
- **Moist to wet**
- **3-6’ x 12-20’**
- **Early Spring**
- **Fall**
- Hummingbird & bee pollinated, squirrels (seeds)
Carolina Jessamine
Bignonia capreolata

- Part shade to full sun
- Moist to wet, tolerates flooding
- 3-5’ x 20-30’

Flowers: Spring
Fruits: Summer

- Hummingbirds and butterflies
- Deer (!)
Going Native Portal
https://projects.ncsu.edu/goingnative/index.html
NCSU Plants Database

https://plants.ces.ncsu.edu/
Extension Gardener Handbook

- Available online for **FREE**
  https://content.ces.ncsu.edu/extension-gardener-handbook

- Full-color, hardback copy available from UNC Press ($60)
Chatham County Native Plant Nurseries

http://www.curenursery.com/
http://www.growingwildnursery.com/
https://mellowmarshfarm.com/
Need help? Contact:

Plant Clinic: MW 1:00-4:00, F 9:00-12:00
chathamemgv@gmail.com
919-545-2715