

# Wake County Native Plants Initiative

Project Update

Growth, Land Use & Environment Committee

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# Discussion

- Review
- Research Process
- Challenges / Design Considerations
- Opportunities for Impact
- Preliminary Recommendations
- Summary Recommendations
- Continued Work
- Questions / Comments

# Why Plant with Native Species?

## Native Species:

- Encourage stewardship of the land
- Celebrate natural diversity
- Provide food and shelter for wildlife
- Create a sense of place
- Reduce water and maintenance needs
- Restore regional landscapes
- Withstand regional weather extremes
- Provide an educational opportunity
- Create a model for other development



# Native Plants

## Native Plants:

A plant that is part of a balance of nature that has developed over hundreds or thousands of years in a particular region or ecosystem.

Used with a qualifier:

Native to the Southeast



### Native Trees and Shrubs for Your Garden\*

#### TREES

##### Evergreen Trees

Atlantic White-cedar, *Chamaecyparis thyoides*  
Ti-ti, *Cyrilla racemiflora*  
American Holly, *Ilex opaca*  
Topel Holly, *Ilex x attenuata*  
Eastern Red-cedar, *Juniperus virginiana*  
Southern Magnolia, *Magnolia grandiflora*  
Sweet-bay, *Magnolia virginiana* var. *australis*  
Common Wax-myrtle, *Morella cerifera* syn. *Myrica cerifera*  
Red Bay, *Persea palustris* syn. *Persea barbania*  
Long-leaf Pine, *Pinus palustris*  
Eastern White Pine, *Pinus strobus* is suitable for the mountains though difficult to grow in the piedmont or coastal plain  
Loblolly Pine, *Pinus taeda*  
Laurel Oak, *Quercus hemisphaerica*  
Live Oak, *Quercus virginiana*  
Eastern Arborvitae, *Thuja occidentalis*  
Eastern Hemlock, *Tsuga canadensis*

##### Small Trees (under 30 feet at maturity)

Chalk Maple, *Acer leucoderme*  
Red Buckeye, *Aesculus patia*  
Service-berry, *Amelanchier arborea* & other *Amelanchier* species  
Redbud, *Cercis canadensis*  
White Fringetree, *Chionanthus virginicus*  
Flowering Dogwood, *Cornus florida*  
Hawthorn, *Crataegus phaeopyrum* & other *C. species*  
Ti-ti, *Cyrilla racemiflora*  
Silverbell, *Halesia diptera* and *H. carolina*  
American Holly, *Ilex opaca*  
Yaupon Holly, *Ilex vomitoria*  
Sweetbay, *Magnolia virginiana*, though selected cultivars are under 30 ft, the straight species can be taller  
Common Wax-myrtle, *Morella cerifera* syn. *Myrica cerifera*  
Snowbell, *Syrax grandifolius* and *S. americanus*

##### Trees for Dry Sites

Chalk Maple, *Acer leucoderme*  
White Fringetree, *Chionanthus virginicus*  
American Smoketree, *Cotinus obovatus*  
Common Wax-myrtle, *Morella cerifera* syn. *Myrica cerifera*

Sourwood, *Oxydendron arboreum*  
Loblolly Pine, *Pinus taeda*  
Laurel Oak, *Quercus hemisphaerica*  
Live Oak, *Quercus virginiana*  
Black Locust, *Robinia pseudoacacia*  
Sassafras, *Sassafras albidum*

##### Trees for Moist Sites

Red Buckeye, *Aesculus patia*  
Service-berry, *Amelanchier arborea* & other *Amelanchier* species  
River Birch, *Betula nigra*  
Hawthorn, *Crataegus phaeopyrum* & other *C. species*  
Ti-ti, *Cyrilla racemiflora*  
Southern Magnolia, *Magnolia grandiflora*  
Sweet-bay, *Magnolia virginiana*  
Common Wax-myrtle, *Morella cerifera* syn. *Myrica cerifera*  
Black-gum, *Nyssa sylvatica*  
Eastern Hop-hornbeam, *Ostrya virginiana*  
Fever-tree, *Pinckneya bracteata*  
Overcup Oak, *Quercus lyrata*  
Swamp Chestnut Oak, *Quercus michauxii*  
Bald-cypress, *Taxodium distichum*

##### Trees that Attract Wildlife

Yellow Buckeye, *Aesculus octandra*  
Red Buckeye, *Aesculus patia*  
Service-berry, *Amelanchier arborea* & other *Amelanchier* species  
Flowering Dogwood, *Cornus florida*  
Hawthorn, *Crataegus phaeopyrum* & other *Crataegus* species  
Eastern Persimmon, *Diospyros virginiana*  
American Holly, *Ilex opaca*  
Yaupon Holly, *Ilex vomitoria*  
Eastern Red-cedar, *Juniperus virginiana*  
Southern Magnolia, *Magnolia grandiflora*  
Common Wax-myrtle, *Morella cerifera* syn. *Myrica cerifera*  
Loblolly Pine, *Pinus taeda*  
Carolina Cherry Laurel, *Prunus caroliniana*  
Black Cherry, *Prunus serotina*  
Sassafras, *Sassafras albidum*  
Eastern Hemlock, *Tsuga canadensis*

continued...

# Invasive Plants

## Invasive Plants:

A plant that is both non-native and able to establish on many sites, grow quickly, and spread to the point of disrupting plant communities and ecosystems.



# Research Process

## Contributors

Dr. Damon Waitt –NC Botanical Gardens  
Landscape Architect Summit (10)  
Wake County Planning  
Wake County GSA Field Services  
Campus Landscape Architects (2)  
Landscape Nurseries (5)  
Landscape Contractors (3)

## Resources

Wake County Documents  
USDA-NRCS Plants Data Base  
NC Native Plant Society  
NC Botanical Gardens Lists  
NCSU Cooperative Extension  
NC Invasive Plants Council  
College Campus Design Guidelines  
Municipal Ordinances



# Challenges – Design Considerations

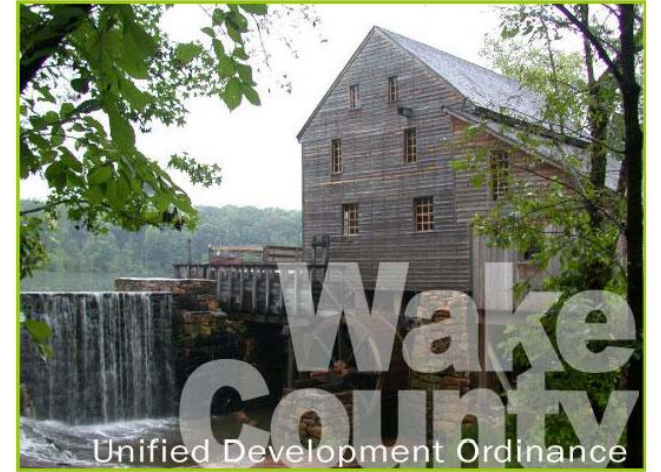
- Wake County projects located in various municipalities
- Project Types:
  - Libraries, Parks, EMS stations, Solid Waste, Historic Sites
- Perception of native plant landscapes
  - Formal, informal, transitions, entries, edges
- Availability / sourcing of native plant material
- Model examples / ordinances are scarce
- Every site / area is different
  - Urban, suburban, rural, exposure, hydrology, soil type...

# Opportunities for Impact

**Wake County Unified Development Ordinance**

**Wake County Design Guidelines and Standards**

**Stormwater Control Measures**





# Opportunities for Impact

## Wake County Unified Development Ordinance

### Article 16 Landscaping and Tree Protection 16-10 Landscaping and Bufferyards

#### 16-10-3 Plant Material, Installation and Maintenance

##### (3) General Standards

All landscaping materials must comply with the American Nurseryman’s Standards. Nonnative or invasive plant species may not be used for planting in landscaping and bufferyards (see the USDA list of these species). Native species used in replantings are encouraged over ornamentals. All species chosen for planting should be chosen from amongst those species that typically grow in our geographical area, Zone 7. The developer is responsible for researching the biological requirements of each species utilized in the plantings.

### Appendix A: Nonnative Invasive Plants

(Current as of 08/24/2005)

These species are to be removed from the landscaping or buffers if discovered and definitely not planted. Some of these are also on the federal noxious weed lists. Please consult the USDA for the most current listing.

Species
Autumn olive
Bamboos
Bush honeysuckles
Chinaberrytree
Chinese Lespedeza
Chinese silvergrass
Chinese/European privet
Climbing yams
Cogongrass
English ivy
Garlic Mustard
Giant reed
Japanese climbing fern
Japanese honeysuckle
Japanese/Glossy privet
Johnsongrass
Kudzu
Nandina (Sacred Bamboo)
Nepalese browntop
Nonnative roses
Nonnative wisterias
Oriental bittersweet
Periwinkles (Vincas)
Princesstree (Paulownia)
Russian olive
Saltcedar
Shrubby Lespedeza
Silktree (Mimosa)
Silverthorn (Thorny olive)
Tall fescue
Tallowtree (Popcorn tree)
Tree-of-heaven
Tropical soda apple
Winged burning bush (Euonymus species)
Winter creeper

# Opportunities for Impact

## Wake County Design Guidelines and Standards

DIVISION **02** SITE

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### **.14** Landscaping General:

- .a Landscaping shall comply with minimum nursery standards.
- .b County preference is the use of native plant species.**
- .c Turf Grass: Common Bermuda or Tall Fescue.
- .d SOD: Variety as approved by the Owner.
- .e Deciduous Trees: Container grown or Balled and Burlapped.
- .f Deciduous Shrubs: Container grown or Balled and Burlapped.
- .g Coniferous and Broadleaf Evergreens: Container grown or Balled and Burlapped.
- .h Mulch: 4" – 5" pine straw or 3" – 4" triple shredded hardwood.
- .i Soil Amendments: Compost; fertilizer/lime as determined by soil tests.**
- .j Tree Protection Fencing: Comply with requirements of authorities having jurisdiction.



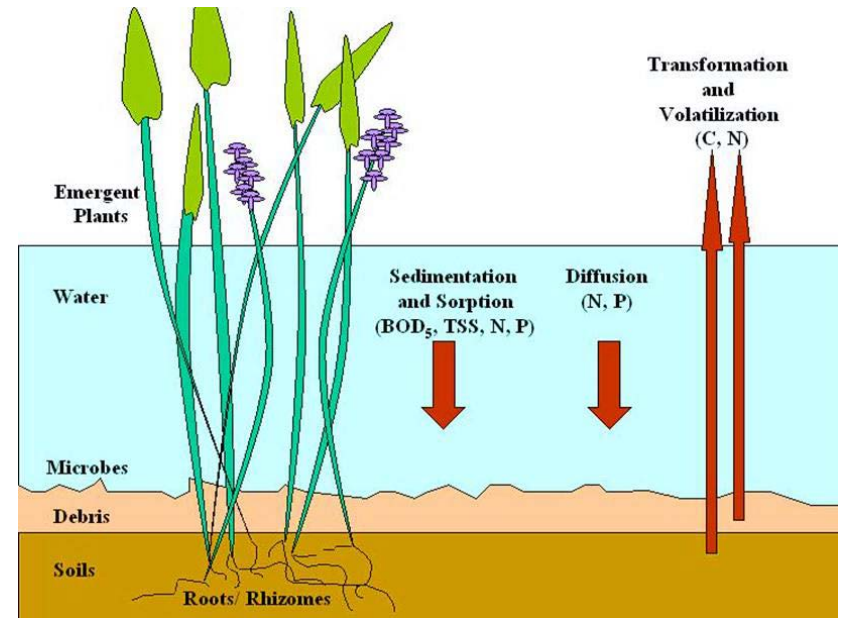
# Opportunities for Impact

## Stormwater Control Measures (SCM)

Wake County references NCDEQ Stormwater Design Manual

- SCM facility specific plants criteria are provided
  - Stormwater Wetlands, Bio-Retention, Wet Ponds
- Native Plants and sourcing are required for specific SCM areas

The plant species listed in Tables 1-3 below have performed well in NC stormwater wetlands and can be reliably propagated in wetland plant nurseries. These lists are not exhaustive.



# Preliminary Recommendations

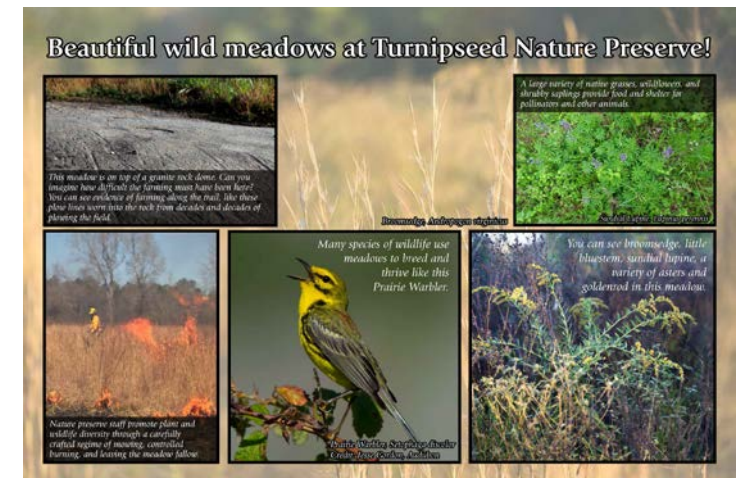
## Wake County Unified Development Ordinance - Updates

- Revise the UDO to include and reference the most current invasive species list per NC Invasive Plants Council
- Revise the UDO to include and reference the most current noxious weeds list from NC Department of Agriculture and Consumer Services
- Require design professionals to indicate native species on all required landscape plans

# Preliminary Recommendations

## Wake County Design Guidelines and Standards - Updates

- Provide specific references for native plants/ invasive lists
  - USDA, NC Native Plant Society, NC Botanical Gardens
  - NC Invasive Plants Council, NC Dept of Ag and Consumer Services
- Increase use of native plants by establishing a minimum % of native plants required for each project
- Include native grasses in landscape plans
- Require design professionals to indicate native species on all submitted landscape plans
- Provide improved soil specifications
- Include educational signage for each project



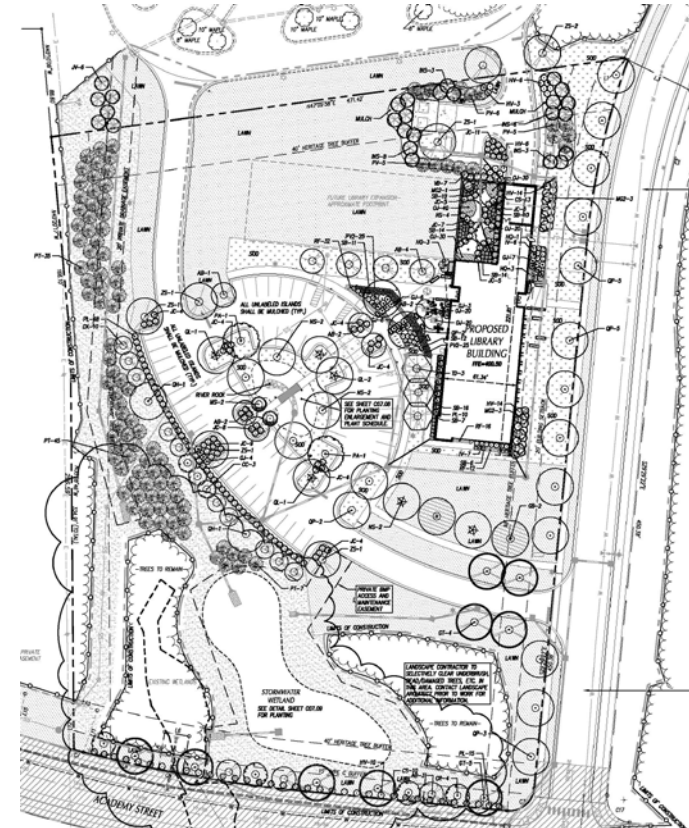


# Preliminary Recommendations

Establish a Model Project to advance Native Plant usage

## Fuquay-Varina Public Library

- Increase % native plant species to 70% minimum
- Provide educational signage –
  - Use of native plants on site and storm water wetlands





# Summary Recommendations

- Create a Native Plants Resolution for Wake County Board of Commissioners
- Revise and Update Wake County UDO
- Revise and Update Wake County Design Guidelines and Standards
- Establish and advance the Fuquay-Varina Public Library as a model project
- Continue work on native plants initiative

# Native Plants Initiative - Continued Work

- Review opportunities to collaborate with municipalities on native plant requirements
- WakeNature Workshop – Conservation Landscaping for Parks and Facilities
- Continue discussion with universities, landscape nurseries and other professionals
- Continue to review guidelines and standards



NORTH CAROLINA  
**NATIVE PLANT**  
S O C I E T Y



# Wake County Native Plants Initiative

**Questions / Comments**