

Wake County Native Plants Initiative

Project Update

Board of Commissioners Work Session

October 8, 2018



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Discussion

- Goal
- Background
- Understanding Native Species
- Research Process
- Challenges / Design Considerations
- Opportunities for Impact
- Recommendations
- Continued Work
- BOC Input



Goal: Increase the use of native plants



Background

- OSAPAC 2017 – Initiative introduced
- GLUE March 2018 – PROS introductory presentation
- OSAPAC March 2018 – Recommend moving through GLUE
- GLUE June 2018 – FDC Planned approach
- GLUE September 2018 – Project update
 - Requested BOC Work Session
- BOC Work Session October 2018



Native Plant Definition

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



GOING NATIVE
URBAN LANDSCAPING FOR WILDLIFE WITH NATIVE PLANTS

Native Trees and Shrubs for Your Garden*

TREES

Evergreen Trees

Atlantic White-cedar, *Chamaecyparis thyoides*
Ti-ti, *Cyrilla racemiflora*
American Holly, *Ilex opaca*
Tupelo 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 borbonia*
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 phaenopyrum* & 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, *Syrinx 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, *Oxydendrum 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 phaenopyrum* & 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, *Pinokoneya bracteata*
Overcup Oak, *Quercus lyrata*
Swamp Chestnut Oak, *Quercus michauxii*
Bald-cypress, *Taxodium distichum*

Trees that Attract Wildlife

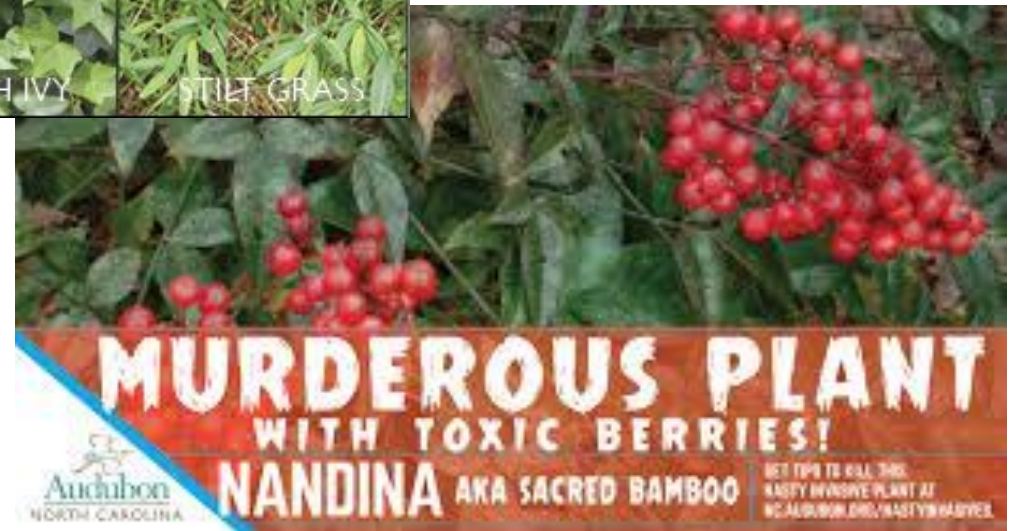
Yellow Buckeye, *Aesculus octandra*
Red Buckeye, *Aesculus patia*
Service-berry, *Amelanchier arborea* & other *Amelanchier* species
Flowering Dogwood, *Cornus florida*
Hawthorn, *Crataegus phaenopyrum* & other *Crataegus* species
Eastern Persimmon, *Diospyros virginiana*
American Holly, *Ilex opaca*
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 Plant Definition

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.



Non-Native Plant Definition

Non-Native Plants:

Naturalized: A species introduced from other areas that has become established in, and adapted to, a region by long continued growth. Does not require artificial inputs for survival and reproduction.

The screenshot shows the USDA PLANTS Database website interface. At the top, it says "Welcome to the PLANTS Database | USDA PLANTS" and includes the USDA and NRCS logos. A navigation bar contains links for Home, About PLANTS, Team, Partners, What's New, NPDF, Help, and Contact Us. A search bar is prominently displayed on the left. The main content area features a "Plant of the Week" section for shellbark hickory (*Carya laciniosa*), a "Spotlights" section with news items about the 2016 National Wetland Plant List, NRCS pollinator references, a slide show for images, new maps, redesigned profile pages, and a pocket guide to sagebrush. On the right side, there are two "I Want To..." boxes with various user options like "See a list of the plants in my state" and "Download data or posters".

<https://plants.usda.gov/plant/>

1/2

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 native / regional landscapes
- Withstand regional weather extremes
- Provide an educational opportunity
- Create a model for other development



Research Process

Contributors

NC Botanical Gardens-Dr. Damon Waitt
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...

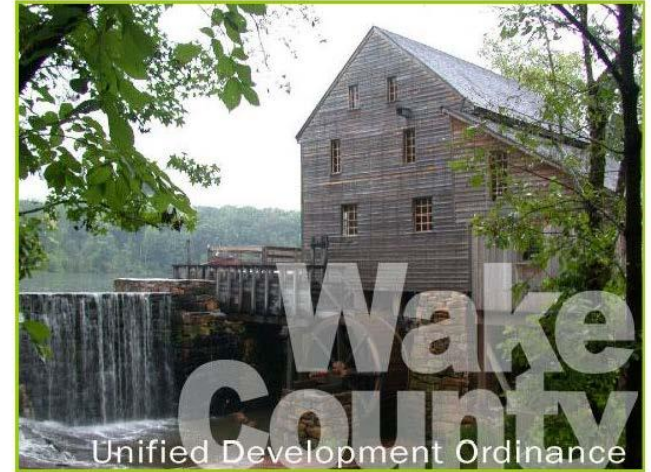
Four Opportunities for Impact

1. Wake County Unified Development Ordinance (UDO)

2. Wake County Design Guidelines and Standards

3. Wake County Pilot Project

4. Stormwater Control Measures



1. Wake County Unified Development Ordinance

Opportunity for Impact

Article 16 Landscaping and Tree Protection

16-10 Landscaping and Bufferyards

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.

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.

This standard has been a requirement in the UDO since 2006. It applies to landscape buffers and not to private yards.

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

1. Wake County Unified Development Ordinance

Recommendations

- Include and reference the most current invasive species list per NC Invasive Plants Council
- 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



2. Wake County Design Guidelines and Standards

Opportunity for Impact

DIVISION **02** SITE

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.14 Landscaping General:

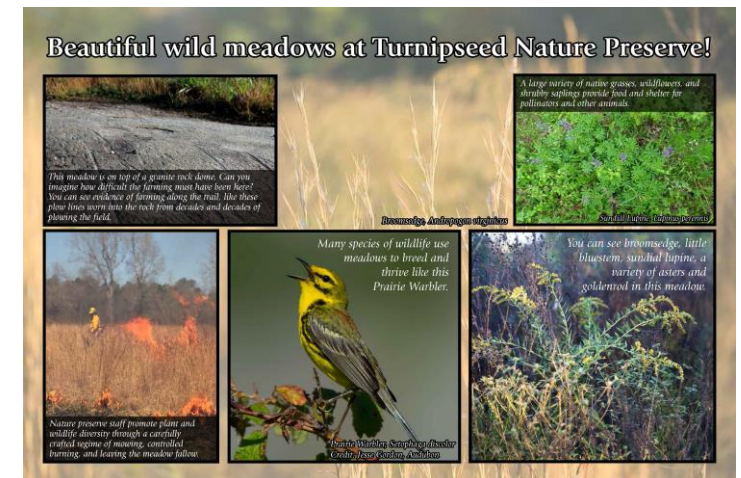
- .a Landscaping shall comply with minimum nursery standards.
- .b County preference is the use of native plant species.
- .c Turf Grass: Common Bermuda or Tall Fescue.
- .d SOD: Variety as approved by the Owner.
- .e Deciduous Trees: Container grown or Balled and Burlapped.
- .f Deciduous Shrubs: Container 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.



2. Wake County Design Guidelines and Standards

Recommendations

- 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

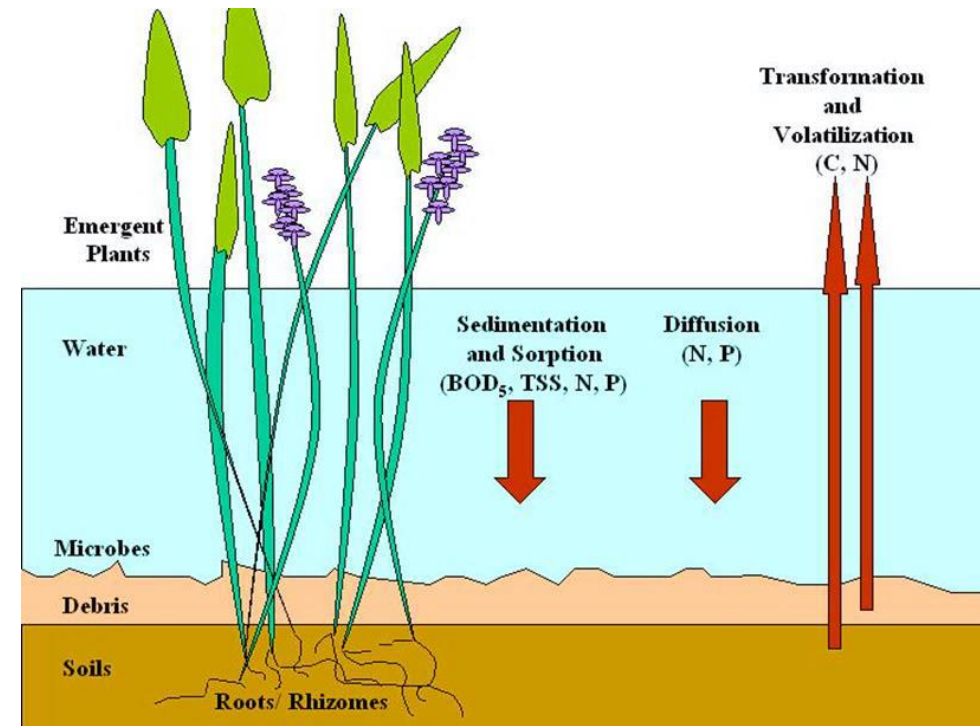


4. Stormwater Control Measures

Opportunity for Impact

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



Continued Work

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



NORTH CAROLINA
NATIVE PLANT
S O C I E T Y 

Input Requested from the BOC

- Revise and Update Wake County UDO
- Consider a Board Resolution endorsing the use of Native Plants for Wake County projects

Questions / Feedback

