NC Native Plants for Coastal Landscapes

Charlotte Glen,
Statewide Coordinator-
Extension Master Gardener Program,
Review these slides and explore additional resources:

http://go.ncsu.edu/natives
Overview

- Defining native
- Why you should plant natives
- Getting the most benefit
- Great natives for coastal landscapes
- Resources to learn more!

Eastern Columbine, *Aquilegia canadensis*
What is native?

“A plant or animal that has evolved in

- a **given place**
- over a **period of time**
- sufficient to develop **complex and essential relationships**
- with the **physical environment** and **other organisms** in a given **ecological community**”
**Given Place**

- Native is meaningless without location!
- Think ecoregion, not political boundaries
- Greatest benefit: choose plants from local ecoregion

**Ecoregions of North America**
Level III: Middle Atlantic Coastal Plain
Congeners

- Plants in same genus
- For example:
  - *Amsonia tabernaemontana*
  - *Amsonia hubrichtii*
- Congeners from southeast US often support local pollinators and beneficial insects even if not native to this region
Amsonia tabernaemontana

Amsonia hubrichtii

Best source for native range: USDA PLANTS Database
Native Range

Consider both:

- Geographical range
- Type of habitat

**Amsonia tabernaemontana**
- Moist woods, stream edges
- Prefers moist soil, part shade

**Amsonia hubrichtii**
- Rocky outcrops, dry creek banks
- More sun and drought tolerant
Period of Time

- 1000’s of years
- Does not include plants recently introduced from other regions that have naturalized or become invasive

Not all plants found growing wild are native. **Naturalized species**, such as daylilies, persist after cultivation. Others are **invasive species**, such as Japanese honeysuckle.
Why Plant Natives?

Natives are needed to:

- To support a diverse array of insects, birds and animals
- Sustain healthy ecosystems
Healthy Ecosystems

- Provide services essential to human wellbeing and survival, including:
  - Pollination
  - Water and Air Purification
  - Soil Formation
  - Balance Pest Species
  - Climate Stability

Learn More: Millennium Ecosystem Assessment
Plants Have Many Functions

- Protect soil from erosion
- Help cycle nutrients
- Help cycle water
- Support soil microbes
Most Important Function: Foundation of Food Webs

Plants capture and convert the sun’s energy into a form that can be consumed by other organisms.
Within Ecosystems, All Plants Are Not Equal

- Most herbivorous insects have adapted to feed on certain plants
- Plants with which they share an evolutionary history
- Plants native to the same region

Luna moth caterpillars love sweet gum
Monarchs

- Caterpillars can only survive on species of *Asclepias*
  - Milkweed
  - Butterflyweed
- 15 species of *Asclepias* native to NC
The Good News

- What you plant in your landscape can make a difference
- Increasing the number of native plant species in your yard and neighborhood supports local ecosystem health

Support Monarchs – Plant Asclepias!
More Natives, Not All Native Every Site

Native doesn’t mean:

- Adapted to all landscapes/sites
- Well behaved
- Long lived
- Easy care or low maintenance – especially if planted in the wrong place

There are very few small, evergreen shrubs native to NC.
Getting the Most Benefit

Choose plants adapted to site

- Sun/Shade
- Moisture/Drainage
- Soil pH and nutrient levels
- Space to grow

Swamp Rose Mallow
*Hibiscus moscheutos*

Needs moist soil!
Being Native Doesn’t Make a Plant Great for Landscaping!

Things to consider:

- Spreading tendencies
- **Longevity**
  - Some species short lived - often self seed
  - Rely on disturbance to sustain populations
  - May disappear over time OR become a nuisance
  - May require periodic “editing”

Golden Alexanders
Zizia aurea
Some natives are too vigorous in landscapes, especially rhizomatous plants.

Canada Goldenrod
Solidago canadensis

Hardy Ageratum,
Conoclinium coelestinum
Others natives are too finicky

Lady Lupine, *Lupinus villosus*

Pitcher Plant, *Sarracenia flava*
What about cultivars?

- Varieties selected for unique/desirable feature
- Propagated by cuttings or grafting to maintain genetic integrity = clones

Merlot Redbud
*Cercis canadensis* ‘Merlot’
Purple leaf form of redbud
Key Question: How different is it?

- Flowering time
- Flower shape
- Flower color
- Foliage color

Some cultivars provide same benefit, others do not – use in moderation

Merlot Redbud, flowers same time, same color, leaves purple.
Getting the Most Benefit

Help plants thrive:

- **Prepare the soil**
  - Alleviate compaction
  - Incorporate organic matter

- **Water during establishment**
  - First season

- **Mulch!**
Getting the Most Benefit

Ecological Design

- Majority of plants natives to local ecoregion
- Diversity of species and height ranges
  - Less lawn - More trees, shrubs, and flowers
- Year round food supply
  - Flowers, fruits, seeds, leaves

Not diverse!

Very diverse!
Getting the most benefit

THINK LAYERS!
More layers provide habitat for more species

Canopy
Understory
Shrub
Flowers/Groundcover
Great Native Trees, Shrubs & Perennials for Coastal Landscapes

- **Serve ecological function:**
  - Support other species

- **Serve landscape function:**
  - Attractive and adaptable

- **Can be nursery produced**
  - Some only available from specialty nurseries

Plants with this symbol are less likely to be repeatedly eaten by deer.
Think Layers: Canopy Trees

- The top layer, 40’-80’+ tall
- Provide shade
- Protect soil
- Food source for many species (leaves, nuts/fruits, nectar/pollen)
Foraging Hubs

- Trees are the most important source of caterpillars
- Most caterpillar species feed on very narrow range of species
- Feed for part of life cycle – usually 2-4 weeks

Polyphemus moth caterpillars feed for a few weeks in late summer
Caterpillar Hunters

- Nearly all terrestrial birds rear their young on insects, not seeds or berries
- Chickadees are caterpillar specialists
  - Requires 6,000-10,000 caterpillars to fledge a single nest!
- Caterpillars rarely a threat to tree health!
Trees

- Take many years to reach maturity but worth it.
- Fast growing trees typically short lived.
- Provide joy from the day they are planted.
Oaks

- Support 100’s of species
  - Acorns
  - Leaves
  - Habitat
- The best shade trees
- Most are very long lived
- Over 30 species native to NC!
Live Oak
*Quercus virginiana*

- The most wind resistant and salt tolerant tree!
- Extremely long lived
- Drought tolerant
- Up to 80’ x 80’ – smaller where sheared by wind
- Deer resistant
- Evergreen
Leafy Oak Gall

- Common but not considered damaging
- Caused by a gall wasp
- Females lay eggs in buds, enzymes cause distorted growth
- No treatment recommendations available
Willow Oak
Quercus phellos

- Deciduous
- 50-75’ x 30-50’
- Tolerates wet sites
- Among fastest growing oaks
- Looks similar, but stronger than laurel oak
River Birch

*Betula nigra*

- Native to streams and riverbanks
- Fast growing, tolerates wet or dry soil
- Can grow 50’ tall, often multi-stemmed
- Cultivars: ‘Heritage’, ‘Duraheat’
In spring, aphids may cause leaf distortion but attract ladybugs and do not damage tree

Ladybug larvae
Red Maple

*Acer rubrum*

- 40’-60’ tall and wide
- Wet – well drained soil
- Avoid sites surrounded by pavement
- Excellent fall color
- Cultivars:
  - ‘October Glory’
  - ‘Brandywine’
- Winter blooms are early nectar source for bees

Blooms (top)
Seeds (bottom)
Red Maple foliage
Southern Magnolia
*Magnolia grandiflora*

- 60’-80’ x 30’-50’
- Moderate salt tolerance
- Moderate drought tolerance
- Best in acid soil
- ‘Kay Parris’ – more compact
- ‘Little Gem’ – smallest, 30’x10’
More Great Native Trees

Less Readily Available:

- **Persimmon**, *Diospyrus virginiana*
- **Hickory**, *Carya* species
- **American Beech**, *Fagus grandifolia*

NC Forest Service, Tree Seedling Store -
[http://nc-forestry.stores.yahoo.net](http://nc-forestry.stores.yahoo.net)
Understory Trees and Shrubs

- Middle layer
- Often missing in managed landscapes
- **Prime nesting height** for most birds, 5’-15’ above ground
- Many have attractive flowers, produce fruits/berries

Middle/understory layer missing in many modern landscapes
Redbud

*Cercis canadensis*

- Small deciduous tree
- Blooms early spring before leaves come out
- Lives ~ 20 yrs.
- Sun – pt. shade, well drained soil
- Protect from deer when young
Leafcutter Bees
Redbud Cultivars

‘Forest Pansy’, ‘Merlot’, ‘Burgundy Hearts’

‘Hearts of Gold’, ‘Rising Sun’

‘Royal White’
Dogwood
*Cornus florida*

- 15’ – 30’ tall
- Moist, well drained soil
- Best in afternoon shade
- Spring blooms, excellent fall color
- Many cultivars
Fall fruits relished by birds
Red Buckeye
*Aesculus pavia*

- 10’-15’ high and 10’ wide
- Beautiful spring flowers attract hummingbirds
- Best in moist soil and afternoon shade
- Loses leaves in early fall
- Seeds are poisonous
Seeds ripen in fall

Called:
• Conkers
• Horse Chestnuts
• Buckeyes

NOT EDIBLE!
Sweet Bay Magnolia
Magnolia virginiana

- Smaller cousin of Southern Magnolia
- Grows 20’-30’ tall, often with multiple trunks
- Sun to part shade,
- Moist or well-drained soil – tolerates flooding
- Fragrant flowers, spring-early summer
- Deciduous
Upright habit; Fall seeds great for birds
Palmetto, Cabbage Palm

- *Sabal palmetto*
- Rarely over 20’ in NC
- Hardy to zone 8, 10 degrees F
- Highly salt tolerant
- Good drought tolerance
Yaupon Holly

*Ilex vomitoria*

- Evergreen
- Red berries on female plants
- Sun to part shade, moist to well drained soil
- Salt spray and drought tolerant!
- Rarely bothered by deer
- Many varieties
Yaupon

Dwarf yaupon, 3’-4’ tall and wide, no berries

Standard/wild yaupon, 15’+ tall, 10’+ wide. Tough hedge or small tree

Weeping yaupon 15’+ tall, 10’ wide. Accent tree.
‘Mt. Airy’ Fothergilla

*Fothergilla major*

- 4’-5’x 4’-5’
- Sun to part shade
- Moist or well drained soil, acidic
- Honey scented spring blooms
- Dwarf fothergilla, *F. gardenii* similar but smaller
Fothergilla fall color
Sweet Pepperbush
*Clethra alnifolia*

- Sun – part shade
- Well drained or moist soil
- Dwarf cultivars grow 3’-4’
  - Hummingbird
  - Sixteen Candles
- Blooms in June-July, attracts butterflies and pollinators
- Very fragrant
‘Ruby Spice’ – pink flowers

Clethra ‘Sixteen Candles’
Grows 3’ - 4’ tall and wide
American Beautyberry
*Callicarpa americana*

- Sun to part shade
- Moist or dry soil
- Magenta berries late summer - attract songbirds
- 4’-5’ tall and wide
- Cut back to 1’-2’ in early spring
Southern Wax Myrtle

*Morella cerifera*

- Full sun – lt. shade
- Moist to dry soil
- 10’-15’ x 10’-15’
- Semi-evergreen
- Drought tolerant
- Prone to ice and wind damage but quickly recovers
- Winter berries for birds (female shrubs)
Dwarf Palmetto

*Sabal minor*

- Tough, evergreen shrubby palm
- 4’-5’ tall and wide
- Sun or shade
- Well drained to wet soil
- Tolerates salt spray
- Deer resistant!
- Fall fruit
Coral Honeysuckle

- *Lonicera sempervirens*
- Semi-evergreen vine
- Spring blooming – often reblooms
- Hummingbirds!
- Sun, most soil types
- Climbs 10’+
- Protect from deer
Perennials

- Ground layer
- Critically important nectar and pollen source for pollinators and beneficial insects

**Most benefit:**
- Plan for something to be in bloom spring-fall
- At least 3 different types in bloom each season

Blossoms with many small flowers clustered together are the richest nectar plants
Getting the Most Benefit

- Plant in groups, 3+ plants per group
- Allows birds and pollinators to feed with less movement
- Also aesthetically pleasing

Black-eyed Susan, *Rudbeckia fulgida*
Select single over double varieties

Purple Coneflower, *Echinacea purpurea*

Echinacea ‘Razzmatazz’
Eastern Columbine
Aquilegia canadensis

- Blooms March - May
- Part sun or shade, well drained soil
- 12” – 24” tall in bloom
- Attracts butterflies and hummingbirds
- Will naturalize in the garden by self seeding
Bluestar
*Amsonia tabernaemontana*

- Tough, long lived clumping perennial
- Pale blue flowers in spring loved by bees
- To 2' tall and wide
- Sun to part shade, wet to well drained soil
False Indigo

- *Baptisia* - hybrids and species
- 3’ - 4’ x 2’ - 3’
- Sun to light shade
- Drought tolerant
- Very long lived, clump forming
- Several species native to SE US

*Baptisia australis*
Baptisia alba
'Purple Smoke'

'Carolina Moonlight'
Coreopsis, Tickseed

- Several species native to NC
- Sun lovers
- Threadleaf Coreopsis
  - *C. verticillata*
  - Long live
  - Summer blooming
  - Drought tolerant
  - ‘Zagreb’ – 2’ x 2’
Butterfly Weed
Asclepias tuberosa

- Sun to part shade
- Well drained soil
- Very drought tolerant
- 2-3’ tall
- Late to emerge in spring
- Orange flowers summer – attract many pollinators
Support Monarchs – Plant Asclepias!
Swamp Milkweed
Asclepias incarnata

- 3’ tall and wide
- Summer flowers
- Sun to part shade
- Moisture tolerant
- Monarch larval host
- Attracts many pollinators
Yucca, Adam’s Needle

- *Yucca filamentosa*
- Evergreen
- 2’ x 2’, summer flower spikes to 5’
- This species NEVER FORMS TRUNKS
- Broken roots regenerate new plants
- Deer resistant, drought tolerant, salt tolerant
Orange Coneflower
*Rudbeckia fulgida*

- Aka “Black-eye Susan”
- Yellow flowers summer
- 3’ tall
- Sun, moist to average soil
- Low mat of semi-evergreen foliage in winter
- Leave seed heads in winter for birds
- Cultivar: ‘Goldstrum’ most common
- Deer love it!
Seashore Mallow
*Kosteletskya virginica*

- Perennial
- Native to brackish wetlands - Tolerates salt spray
- Beautiful pink flowers in summer
- 5’-7’ tall
- Sun, moist to wet soil
- Attracts butterflies
- Deer resistant
Coastal Joe Pye Weed

*Eupatorium dubium*

- Perennial
- Sun to light shade, wet to moist soil
- 4’-5’ tall x 3’-4’ wide
- Great butterfly nectar source!
- Deer resistant
- ‘Little Joe’ – 4’ tall
- *E. fistulosum* much taller
Rough Stemmed Goldenrod

- *Solidago rugosa*
- cultivar ‘Fireworks’
- Grows 3’-4’ high and wide
- Sun to part shade, moist or well drained soil
- Blooms late summer - nectar for butterflies and many other pollinators
Native Grasses

- Many do best in a meadow setting
  - Little Blue Stem
  - Broomsedge
  - Indian Grass
- In landscape, can become large and floppy
- Competition keeps them compact in the wild
Switch Grass

*Panicum virgatum*

- Several cultivars, 3’ - 8’ tall
- Moist or dry soils
- Sun to light shade
- Stands up well through winter, birds enjoy seeds
- Cut back by late Feb.

‘Northwind’
Muhly Grass
*Muhlenbergia capillaris*

- 4’ tall in bloom, 3’ x 3’ mound
- Blooms late fall
- Sun, well drained soil
- Cut back in late winter, before new growth begins
“A plant that has fed nothing has not done its job”

D. Tallamy, *Bringing Nature Home*
Learn More

**Extension Gardener Handbook**

- Chapters cover many topics
  - Soils, Insects, Landscape Design, Vegetables, Flowers, etc.
- **Chapter 12 is Native Plants!**

**NC State Extension**

Cardinal flower - Lobelia cardinalis
Learn More: Going Native Website

http://www.ncsu.edu/goingnative/

Searchable plant database!

Going Native: Urban Landscaping for Wildlife with Native Plants

You can go native!...with native plants in your landscape.

- See why landscaping with native plants is better for wildlife and for the environment.
- Find out about the problems caused by invasive, exotic plants. Odds are you have invasive exotics in your own backyard!
- Discover the native plants you can use as alternatives to exotic plants. We even tell you where you can buy them!
Extension Plants Database:
Can help you select native and non-invasive non-native species for your yard

http://plants.ces.ncsu.edu/
Plant Profiles:

- Height
- Hardiness
- Soil
- Exposure
- Description
- Images
- More!
Questions?

Learn more:

http://go.ncsu.edu/natives