

Rain Garden Vegetation



Rain Garden Certification
Alabama Cooperative Extension System

Introduced and Invasive Plants

Introduced plants are not native but have become established or naturalized in our landscapes

Invasive plants are usually weedy, aggressive, and displace native plant species



Introduced and Invasive Plants



Imperata cylindrica – Cogongrass



Pueraria lobata - Kudzu

UGA0002155

Invasive Natives?

Some native plants can be considered noxious

But in theory, even these are better than invasive, exotic species!

Many can colonize an area, spread by runners, reseed an area

Seeds may be spread by wildlife (biotic dispersal), or other forces such as water and wind (abiotic dispersal).

Invasive Natives?

Typha latifolia – Common
Cattail





Native Plant Benefits

Natives are **naturally occurring** in the area without human interaction

Promote native **wildlife**

Low maintenance

NOT NO MAINTENANCE!

Relatively few pests

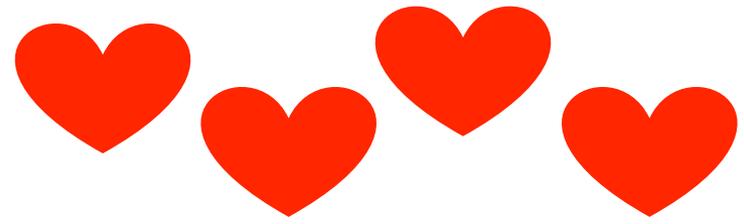
Adapted to our climate conditions

Work for difficult situations

Support the LOCALS!



Native Plants: Relationship Status



Form life long relationships with native insects

Ex: larval host plants



Passiflora incarnata –
passion flower



Asclepias tuberosa –
butterfly weed

www.botany.thismia.com



Gulf fritillary



Monarch butterfly

Enhancing Wildlife

Insects, small mammals, and birds need plants for cover and habitat

Plants provide food (**seeds**) for birds and small mammals

Plants provide **nectar** and are a **larval source** for bees, butterflies, and moths

Native plants **have relationships** with insects and animals



Southeast Growers Survey

They grow natives based on

Client request (25.6%)

Ecological reasons (17.8%)

Adaptability to difficult site conditions (16.3%)

Low maintenance issues (13.2%)

Going Native

Less Lawn = less mowing

Less pesticides

Homeowners use 10x more pesticides per acre than farmers!

Wildlife corridors



Plants are the WORK Horses



Flood and drought tolerant

Nutrient and some heavy
metal uptake

Enhance infiltration

Soil stabilization

Manage excess runoff

Low maintenance

Commercially available

Installation - No Fertilizer



Photo: North Carolina Cooperative Extension

1 year later...



Photo: North Carolina Cooperative Extension

2 years later...



Photo: North Carolina Cooperative Extension

Stormwater Nutrients – NC Study

- 6.3 lbs N per year
- 1.05 lbs P per year
 - Equivalent of 63 lbs 10-10-10 of N or
 - 10 lbs 10-10-10 of P per year over a 2100 sq. ft. landscape bed

Hydrophytes

Adapted to wet conditions, flood tolerant
Structural adaptations

Hydro = water, phyte = plant



Adventitious rooting

Non-hydrophytes

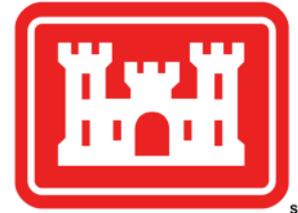
Do not tolerate flooding
Upland plants



Buttressing



Wetland Indicator Status



Previously based on the frequency of a species occurring naturally in a wetland

List was revised by USACE, FWS, EPA, and NRCS

New list based on ecological regions

OBL: Almost always a hydrophyte, rarely in uplands

FACW: Usually a hydrophyte, but occasionally in uplands

FAC: Commonly occurs as hydrophyte or non-hydrophyte

FACU: Occasionally is a hydrophyte, usually occurs in uplands

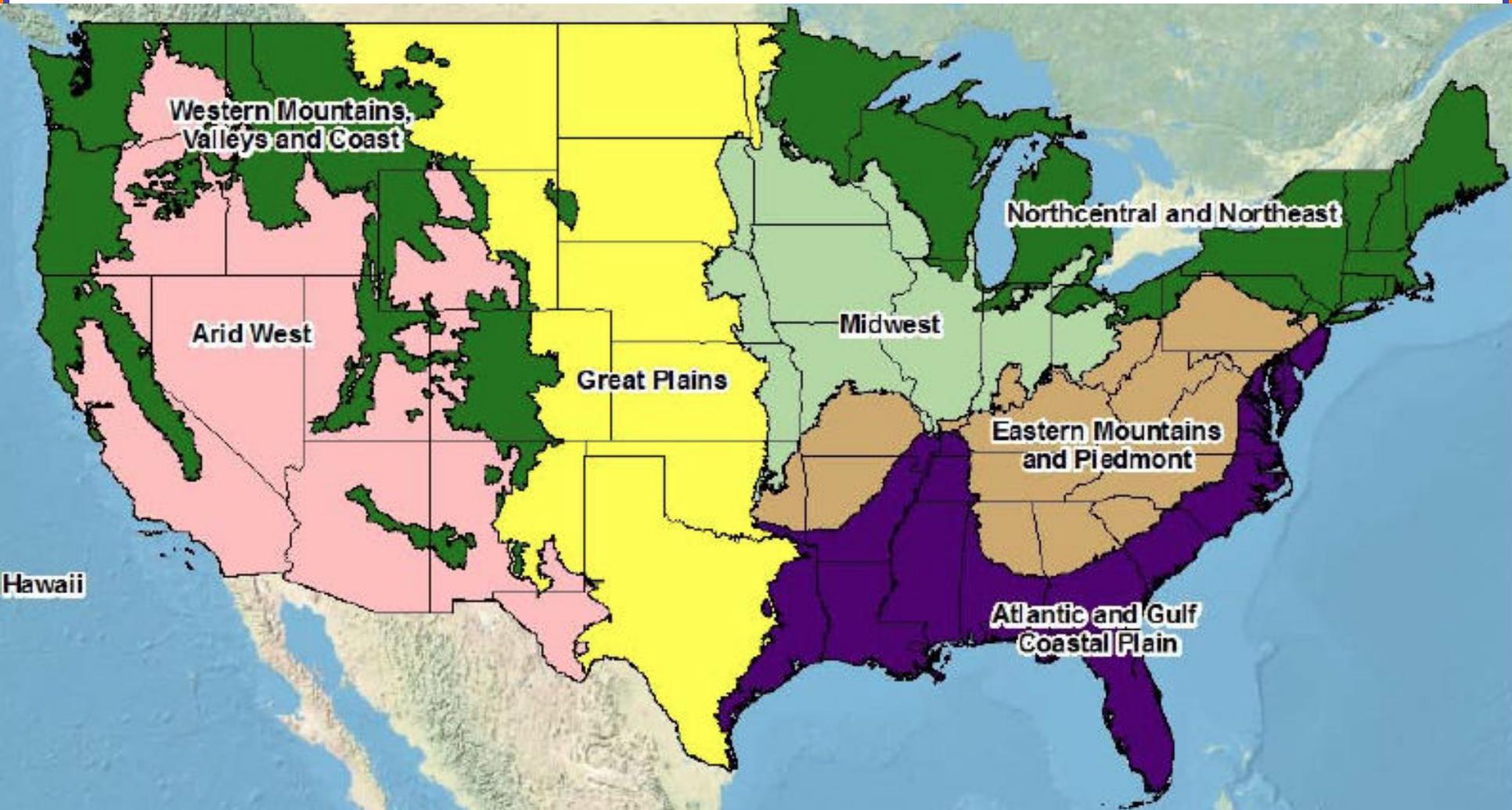
UPL: Rarely a hydrophyte, almost always in uplands



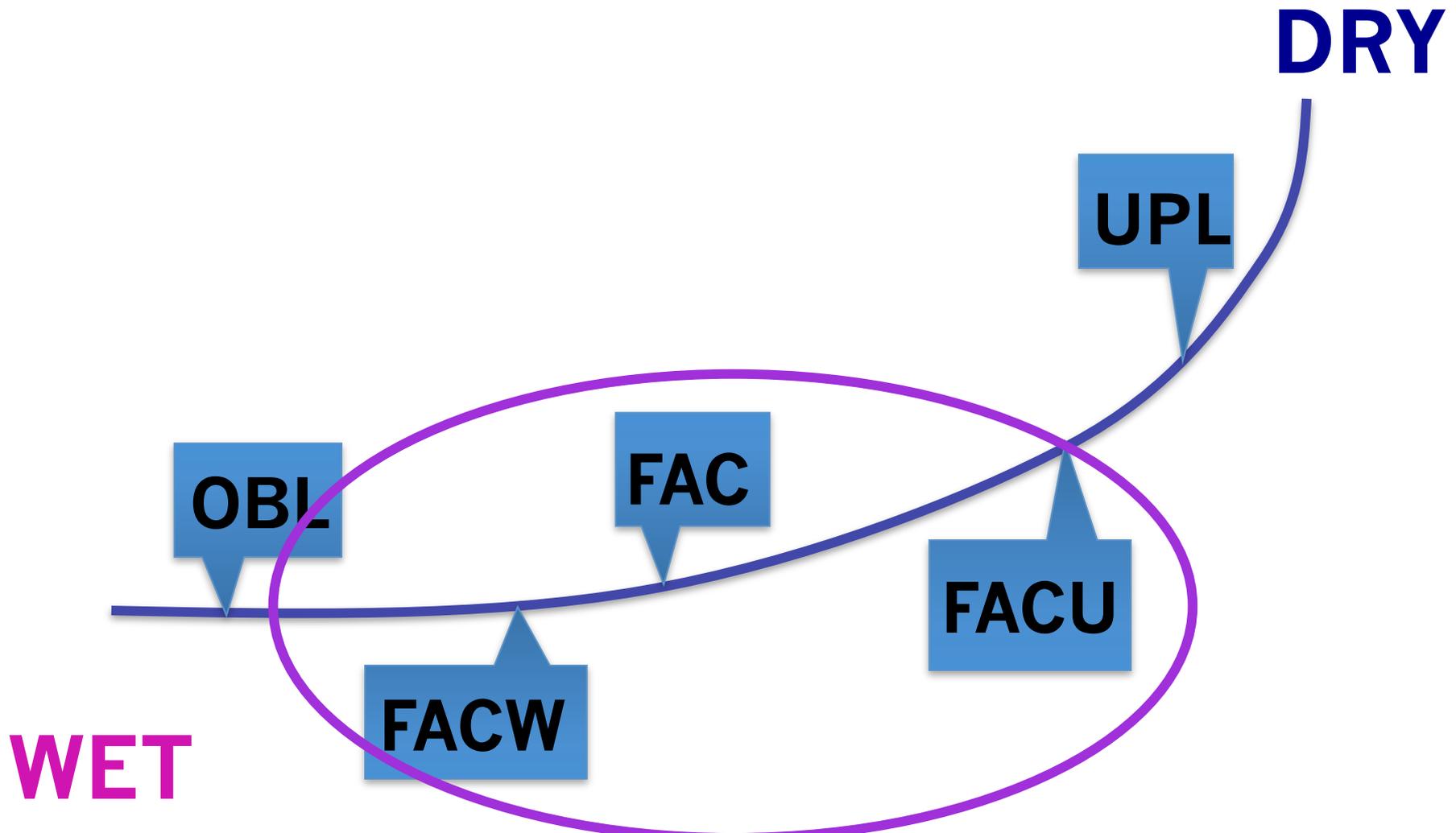
Lickvar and Minkin, 2008



Wetland Plant List Eco-regions



Wetland Indicator Status



Cultivars and Your Site Goal

Aesthetics?

Use cultivars are for landscape settings where aesthetics are important

Promoting wildlife and biodiversity?

Cultivars genetically identical

Consider straight species not cultivars

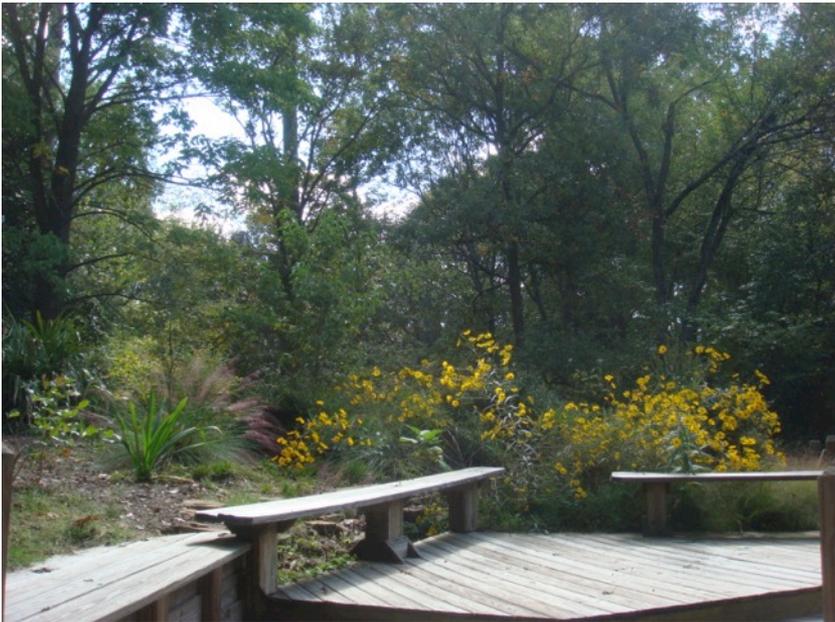
Cultivars may not be as palatable to wildlife

Today's Plant List

All native

Commercially available

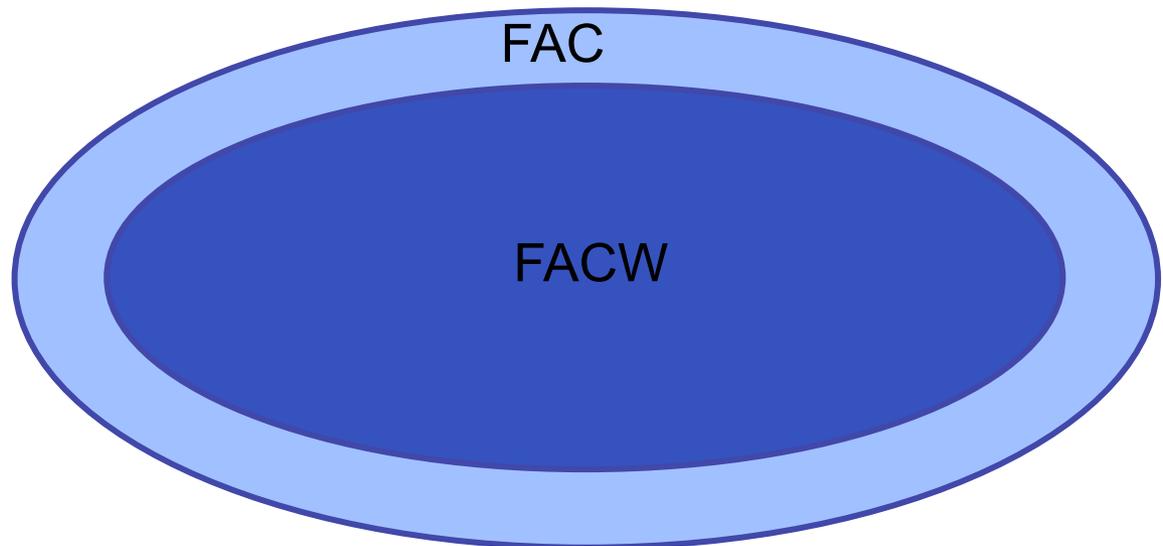
Not exhaustive – plenty more that can be used



Where to Plant

Drought tolerant plants on edge (mostly FAC,
unless otherwise noted)

Center of bowl = more ponding (FACW), will remain
wet longer



Morella cerifera 'Tom's dwarf'

– dwarf wax myrtle

Indicator Status

EMP: FAC

ACGP: FAC

Light Requirement: Sun

Size: 3' tall and as wide

Habit: evergreen small shrub

Benefits: Fragrant foliage, fixes nitrogen, birds eat berries and seeds are animal dispersed, **extensive root system**

Comments: nice dwarf form, does not get leaf spot like some of the other cultivars



Itea virginica – Virginia sweetspire

Indicator Status

EMP: FACW

ACGP: OBL

Light Requirement: Sun to Part Shade

Size: 3 - 6' tall and wider than tall

Habit: semi-evergreen to deciduous shrub, arching form

Comments: Spring bloom, flowers showy and lightly fragrant, good fall color, medium to fast growth rate

Cultivars: 'Little Henry' (dwarf), 'Henry's Garnet' (fall color)



Viburnum nudum – possumhaw

Indicator Status

EMP: FACW

ACGP: OBL

Light Requirement: Sun to Part
Shade

Size: 6-10' tall and as wide

Habit: deciduous shrub

Benefits: Bird attractant

Comments: White flowers in clusters
in Summer (June and July)

Cultivars: 'Winterthur' is a smaller
cultivar with lustrous leaves,
'Brandywine' good cultivar for fruit set



Clethra alnifolia - pepperbush

Indicator Status

EMP: FACW

ACGP: FAC

Light Requirement: Full sun to Part Shade

Size: 6' tall and as wide **Habit:** deciduous shrub

Benefits: attracts birds, hummingbirds, and butterflies

Comments: white to pink flowers in Summer (July and Aug.)

Cultivars: 'Ruby Spice' is a good pink flowered cultivar



Ilex glabra – inkberry

Indicator Status

EMP: FACW

ACGP: FAC

Light Requirement: Full sun to Part
Shade

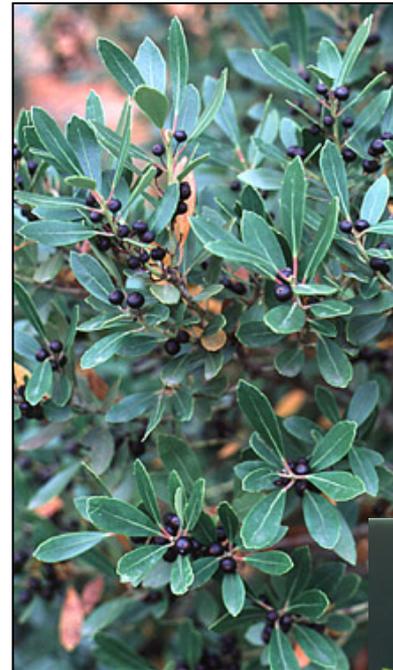
Size: up to 6’

Habit: evergreen shrub

Benefits: high wildlife value, attracts
honey bees

Comments: white flowers in summer
followed by black berries, can be tricky
to get established

Cultivars: ‘Shamrock’ smaller cultivar



Callicarpa americana – American beautyberry



Indicator Status

EMP: FACU

ACGP: FACU

Light Requirement: Part Shade
to Shade

Size: 3-6' tall, 6' spread

Habit: Small deciduous shrub,
open form, somewhat arching

Benefits: **Fruit** attracts birds (40+
species!), rodents, leaves
browsed by **deer**, flowers butterfly
attractant

Comments: Blooms light
lavender to pink in Summer (June
– Aug.)



www.missouriplants.com

Ilex vomitoria ‘Stokes dwarf’ – dwarf yaupon holly



Indicator Status

EMP: FAC

ACGP: FAC

Light Requirement: Full Sun to Part Shade

Habit: compact evergreen shrub

Size: 3 - 4' tall and slightly wider

Benefits: very versatile, adaptable to soil conditions

Comments: can be called ‘Shillings’ or ‘Stokes dwarf’, **VERY slow growing**, male cultivar, small leaved holly – nice texture

Hypericum densiflorum 'Creel's Gold' – bushy St. John's wort



Indicator Status

EMP: FACW

ACGP: FACW

Light Requirement: Full Sun

Habit: semi-evergreen to
deciduous shrub

Size: up to 3' tall and 3' wide,
dense and compact

Benefits: **heat and drought
tolerant**

Comments: blooms yellow in
early Summer and may spot
bloom for rest of summer,
spreads by stolons

Rudbeckia fulgida – orange coneflower

Indicator Status

EMP: FAC

ACGP: FAC

Light Requirement: Full Sun

Habit: herbaceous perennial

Size: 1.5-2.5' tall, 2' wide

Benefits: very low maintenance

Comments: blooms yellow from Summer to Fall (July to Oct.), will self sow and produce many offsets, grown in part shade but will not bloom as profusely

Cultivars: 'Goldsturm' is good for prolific flowering



Stokesia laevis – Stoke's aster



Indicator Status

EMP: FAC

ACGP: FAC

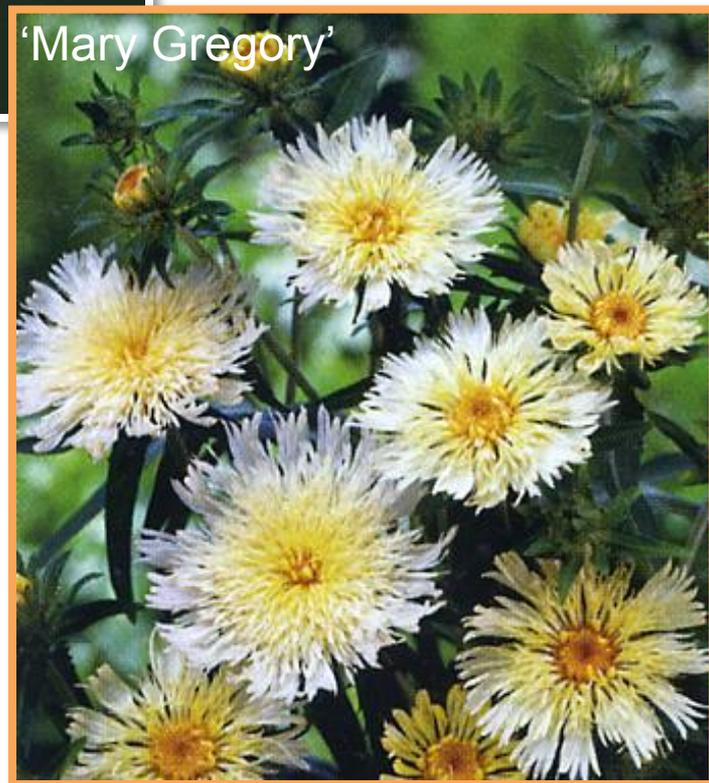
Light Requirement: Full sun to Part Shade

Size: 1.5' tall and as wide

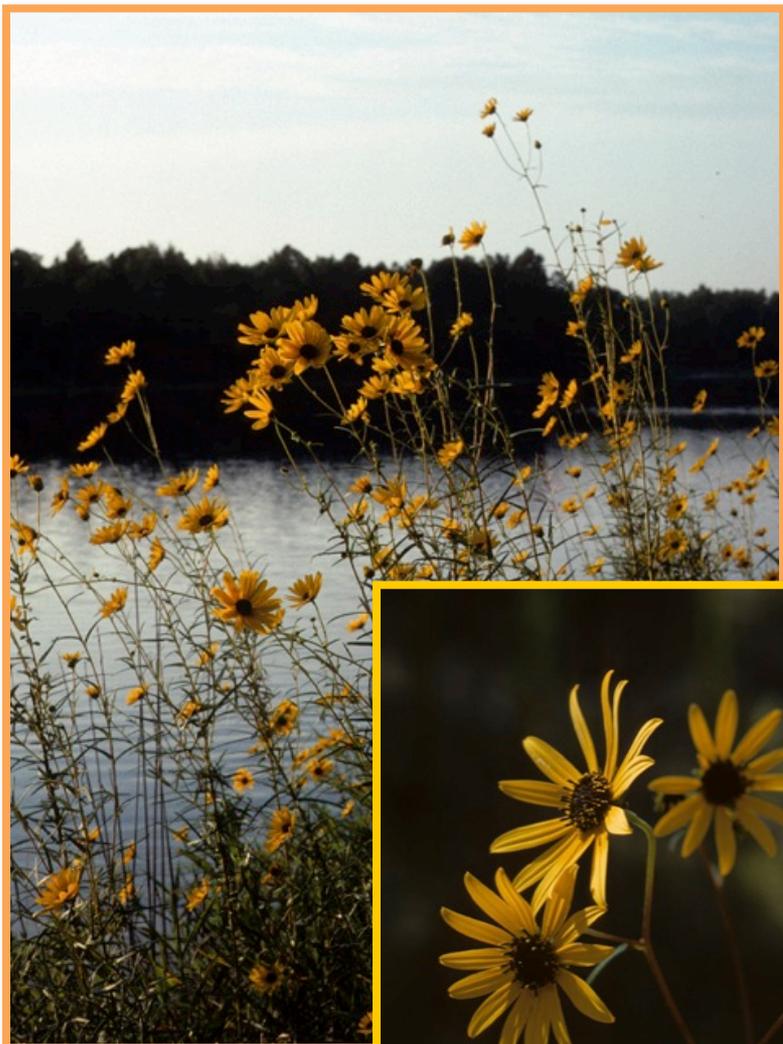
Habit: herbaceous perennial with basal foliage, semi-evergreen

Benefits: very low maintenance

Comments: blooms in Spring to Summer (May to Sept.), self sows, very adaptable



Helianthus angustifolius – swamp sunflower



Indicator Status

EMP: FACW

ACGP: FACW

Light Requirement: Part
Shade

Size: 3' tall, 3' spread

Habit: **herbaceous**
perennial

Benefits: Seeds attract
birds, white tailed deer
browse

Comments: Blooms
yellow in Fall (Oct.),
spreads by seeds

Conoclinium coelestinum – mistflower



Indicator Status

EMP: FAC

ACGP: FAC

Light Requirement: Full sun to Part Shade

Size: up to 3' tall and as wide

Habit: herbaceous perennial

Benefits: Attracts bees, butterflies, and birds

Comments: bright blue or violet flowers from Summer to Fall (July to Nov.), very vigorous, divide every 3 yrs

Cultivars: 'Wayside Form' good compact cultivar

Liatris spicata – blazing star



Indicator Status

EMP: FAC

ACGP: FAC

Light Requirement: Sun to part shade

Size: 2 – 4' tall, 1.5' wide, narrow form

Habit: herbaceous perennial

Benefits: attracts butterflies, hummingbirds, and birds, drought tolerant

Comments: Blooms in pink spikes for about 6 weeks in the late Summer

Physostegia virginiana – obedient plant



Indicator Status

EMP: FACW

ACGP: FAC

Light Requirement: Full Sun to Part Shade

Habit: herbaceous perennial

Size: 2-4' tall and spreading

Benefits: very adaptable, high colonization, nectar source for hummingbirds and butterflies

Comments: blooms white, pink, or lavender in late Summer to Fall (Sept. to Oct.)

Over Time...



Feb 2011



Sept 2010



June 2011



July 2011

Vernonia gigantea – tall ironweed



Indicator Status

EMP: FAC

ACGP: FAC

Light Requirement: Full sun to part shade

Size: up to 7' tall

Habit: herbaceous perennial with tall and narrow form

Benefits: attracts bees

Comments: blooms in late Summer

Gaillardia pulchella – indian blanket



Indicator Status

EMP: UPL

ACGP: UPL

Light Requirement: Sun

Size: 1 - 2' tall, 1 – 1.5' wide

Habit: annual or short lived perennial

Benefits: **very heat and drought tolerant, attracts butterflies**

Comments: Blooms red and yellow in Summer (May to Aug.), needs well drained soil, will flower longer with lots of rain

Asclepias tuberosa – butterfly weed

Indicator Status

EMP: Not listed

ACGP: Not listed

Light Requirement: Sun

Size: 1.5 - 2' tall and 3' wide

Habit: herbaceous
perennial

Benefits: heat and
drought tolerant, attracts
butterflies and
hummingbirds

Comments: Blooms orange
in Summer, prefers well
drained sandy soils



*Photo: www.wildflower.org

Muhlenbergia capillaris – muhly grass

Photo: www.wildflower.org



Indicator Status

EMP: FAC

ACGP: FACU

Light Requirement: Full sun

Size: 3-4' tall and as wide

Habit: herbaceous
ornamental grass, **clumping**

Benefits: very **tolerant of drought and flooding**

Comments: **moderate growth rate**, pink to purple in panicles from late summer to fall

Schizachyrium scoparium – little bluestem



Indicator Status

EMP: FACU

ACGP: FACU

Light Requirement: Full sun to Part Shade

Size: about 1.5' tall, taller with more water – up to 3' tall and 1 to 1.5' wide

Habit: grass, **clumping**

Benefits: **tolerant of drought, will form a mat of rhizomes in wet situations**

Comments: fluffy seed heads in fall, bronze to purple fall color, **mow annually**

Eragrostis spectabilis

– purple love grass



Indicator Status

EMP: FACU

ACGP: UPL

Light Requirement: Full sun

Size: 1.5' tall and as wide

Habit: herbaceous **clumping** grass

Benefits: good for sandy soils

Comments: purple inflorescences in late Summer, will reseed and spread by rhizomes

Plant Selection Tips

Use plants with different habits (tree, shrub, herb) and plant a variety (no monoculture)

Think about plant form and canopy for future shading at plant maturity.

Plan for mature plant sizes to avoid future maintenance such as pruning

Do your homework! See what's available.

Plant Height



Stoke's
Aster



Orange
Coneflower



Mistflower



Dwarf
Witch-alder

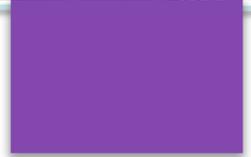
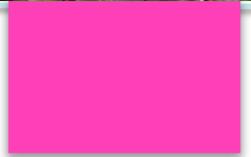
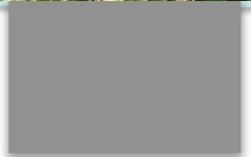
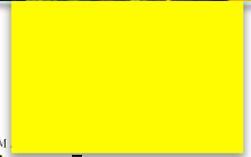
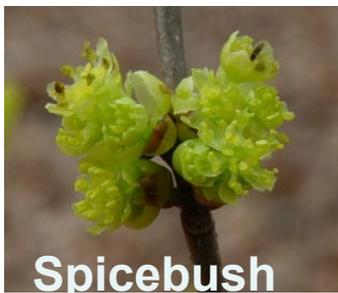
1.5'

1.5 to
2.5'

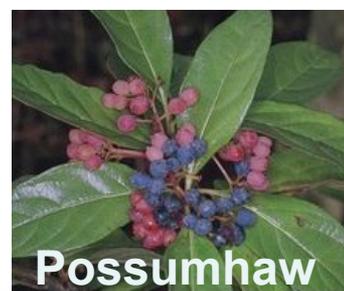
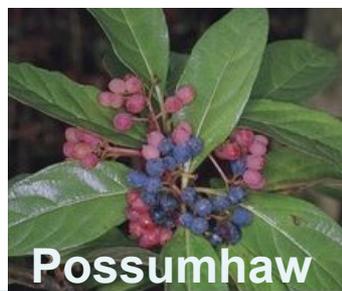
1.5 to
2.5'

3'

Flower Color



Fruit Color



Seasonal Interest

Spring



Stoke's
Aster



Spicebush



Sweetspire



Dwarf
Witch-alder

Summer



Orange
Coneflower



Stoke's
Aster



Possumhaw



Summersweet



Mistflower



Ironweed

Fall



Orange
Coneflower



Mistflower



Possumhaw



Spicebush



Muhly grass

Winter



Winterberry



Wax myrtle

Seasonal Interest

Plant	Spring	Summer	Fall	Winter
<i>C. coelestinum</i>				
<i>C. alnifolia</i>				
<i>F. gardenii</i>				
<i>I. verticillata</i>				
<i>I. virginica</i>				
<i>L. benzoin</i>				
<i>M. cerifera</i>				
<i>M. capillaris</i>				
<i>R. fulgida</i>				
<i>S. laevis</i>				
<i>V. gigantea</i>				
<i>V. nudum</i>				

Other Tips

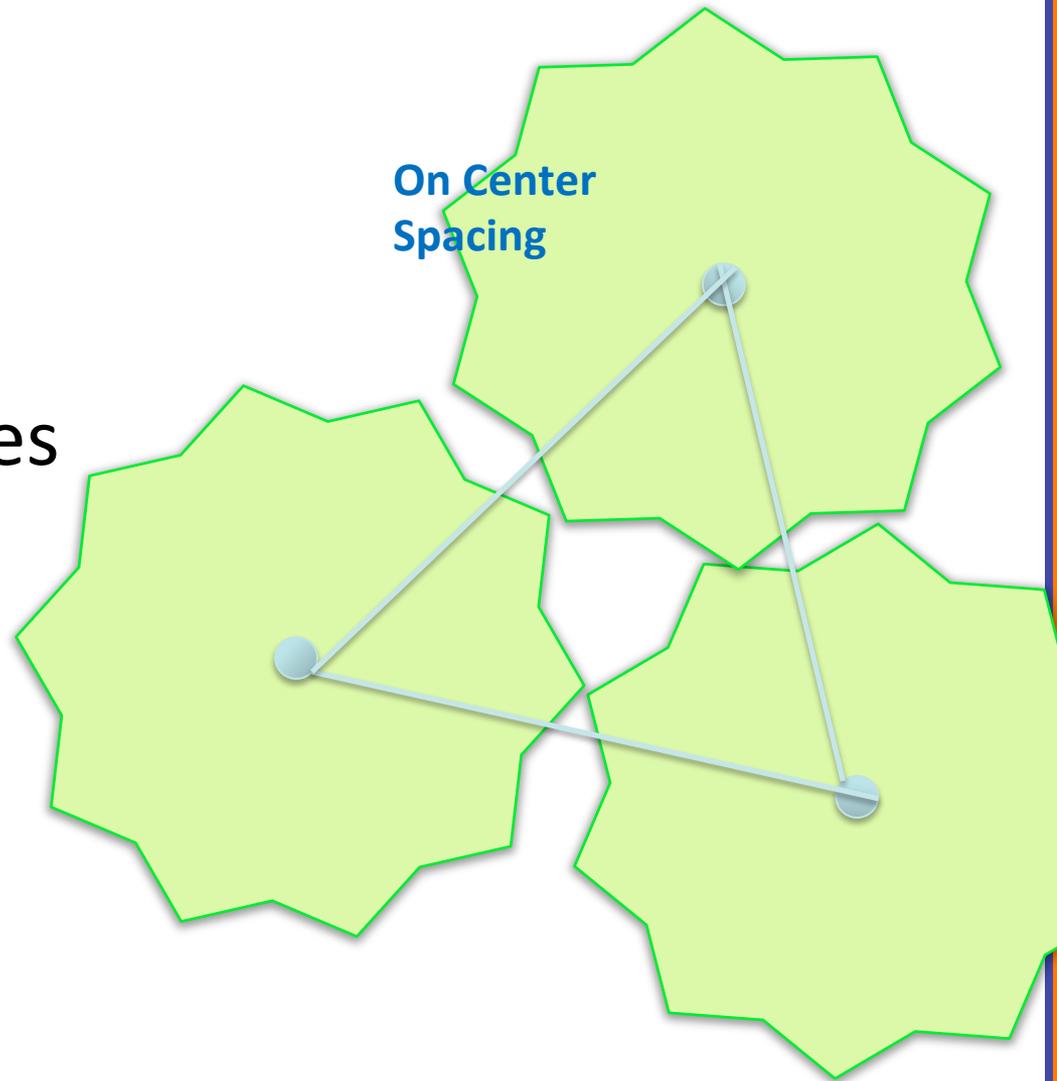
Plan for mature sizes

Sketch out plant placement

Consider viewing angles

Do your homework!

Will plants reseed or spread by offsets?



More on Plant Spacing

Depends on look you want – instant gratification
(Ex. Beautyberry shrubs grow to 6 ft wide so plant 3 ft apart)

Design with some space between mature plants

General planting guide (Note: Read plant label for exact spacing recommendations):

1- 2' apart for perennials

2'-3' apart for most grasses

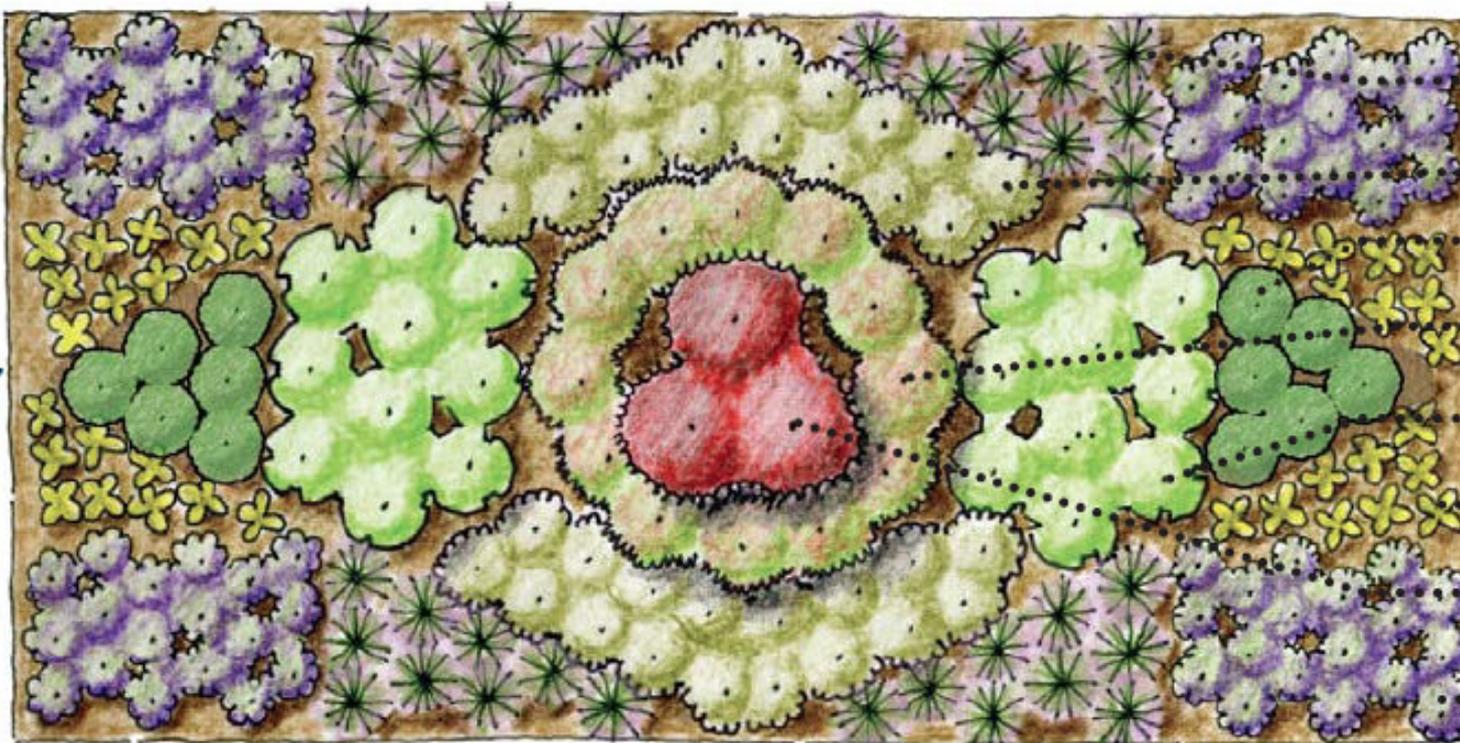
3'-5' apart for most small to medium shrubs

6'-8' apart for larger shrubs

Symmetrical Design

80'

40'

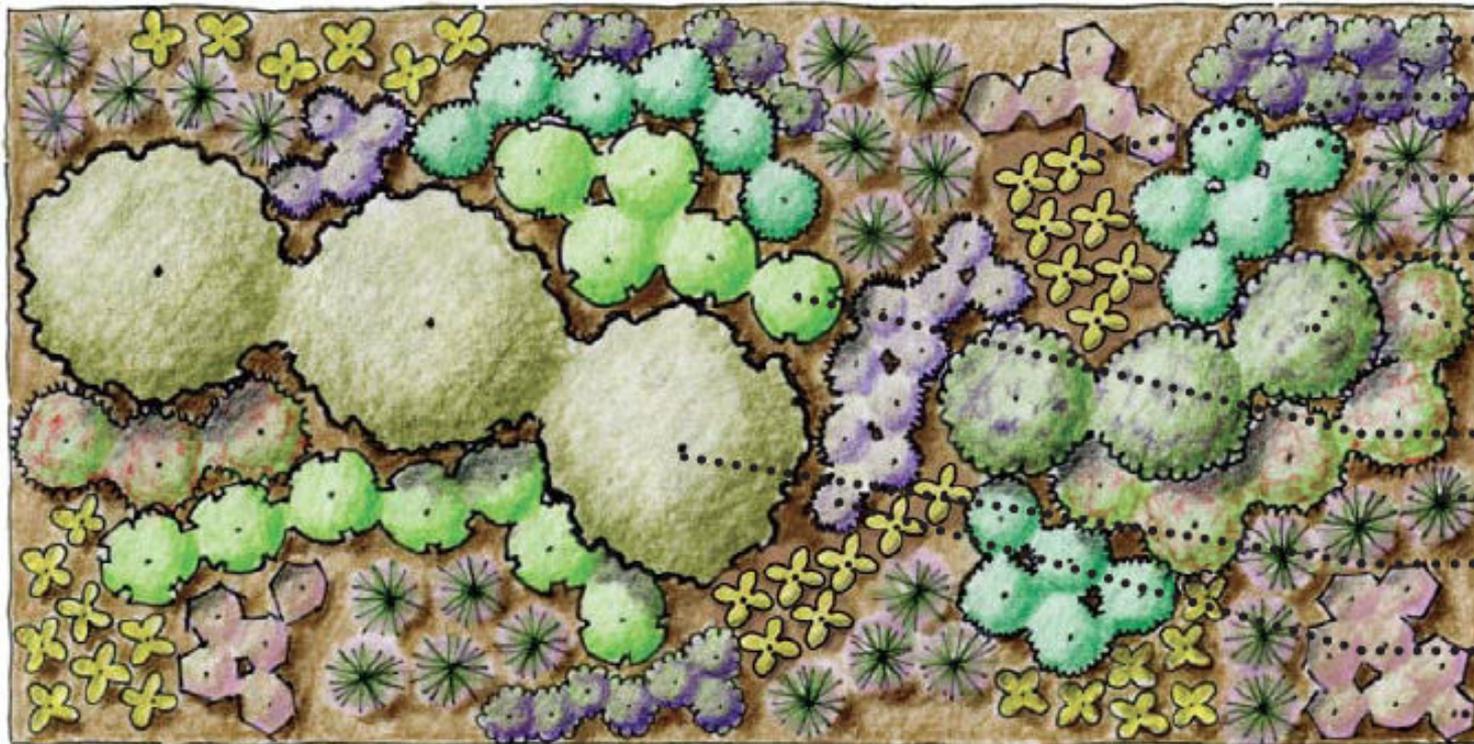


- muhly grass
- waxmyrtle
- 'Shamrock' inkberry
- 'Ruby Spice' summersweet
- 'Henry's Garnet' sweetspire
- orange coneflower
- 'Winter Red' winterberry
- 'Stoke's aster

Asymmetrical Design

80'

40'



- Stoke's aster
- orange coneflower
- 'Shamrock' inkberry
- possumhaw
- 'Ruby Spice' summersweet
- 'Henry's Garnet' sweetspire
- muhly grass
- waxmyrtle
- New York ironweed
- mistflower

Plant Establishment

Irrigate after planting

Containers – install anytime
of year

Summer – will need more
water



Questions?

