



Module 2

The Classification of Plants



Classification

We will discuss a few ways of classifying plants:

- Big vs. Small
- Grass vs. Tree
- Native vs. Introduced
- Invasive (Noxious) vs. Non-Invasive
- Trees vs. Shrubs



What's in a name?

Who has heard of:

- Ribbon grass?
- Dockmackie?
- Withe-rod?
- Possum-haw?
- Water oak?
- Black oak?
- Scrub pine?



What's in a name?

Who has heard of:

Ribbon grass?	- Reed canary grass
Dockmackie?	- Maple-leaf viburnum
Withe-rod?	- Northern wild rasin
Possum-haw?	- Southern wild rasin
Water oak?	
Black oak?	
Scrub pine?	- Virginia pine



What's in a name?

Who has heard of:

Ribbon grass?	- Reed canary grass	- <i>Phalaris arundinacea</i>
Dockmackie?	- Maple-leaf viburnum	- <i>Viburnum acerifolium</i>
Withe-rod?	- Northern wild rasin	- <i>Viburnum cassinoides</i>
Possum-haw?	- Southern wild rasin	- <i>Viburnum nudum</i>
Water oak?		- <i>Quercus nigra</i>
Black oak?		- <i>Quercus veluntina</i>
Scrub pine?	- Virginia pine	- <i>Pinus virginiana</i>



What's in a name?

Pinus virginiana Miller?

Botanical name

Common name(s)

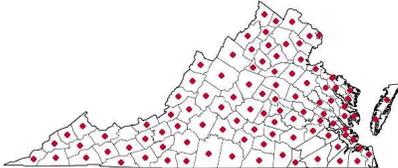
Habitat

Native status

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Pinus virginiana Miller



[Show image with county labels](#)

Detail

Family
Pinaceae

Botanical Name
Pinus virginiana Miller

Common Name
Virginia Pine, Scrub Pine

Synonym(s)

Flora of Virginia Name/Status
Pinus virginiana P. Mill.

Comments

Habitat
Dry old fields and forests, rocky woodlands and barrens, cliffs, and outcrop pavements; except in naturally xeric habitats, this is an early-successional species that invades open habitats and is quickly replaced by hardwoods. Common in the Piedmont and at low elevations in the mountains; frequent to locally common in the Coastal Plain (where it is generally outcompeted by Pinus taeda on most sites).

Native Status
Native

<http://vaplantatlas.org/>

Digital Atlas of the Virginia Flora

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Lycophytes & Pteridophytes	Gymnosperms	Monocots	Dicots	Bryophytes
<ul style="list-style-type: none">• Ferns• Ground pines	<ul style="list-style-type: none">• Pines• Cedars• Hemlocks	<ul style="list-style-type: none">• Grasses• Rushes• Sedges• Lillies	<ul style="list-style-type: none">• All flowering plants	<ul style="list-style-type: none">• Mosses• Lichens

 DEQ
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Other ways to classify plants?

 DEQ
VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

Classification

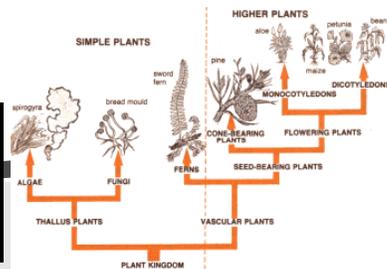
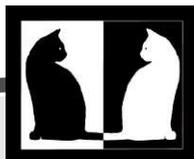
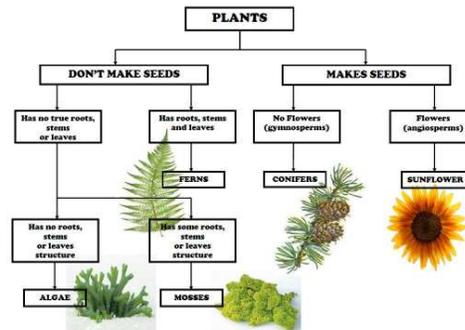
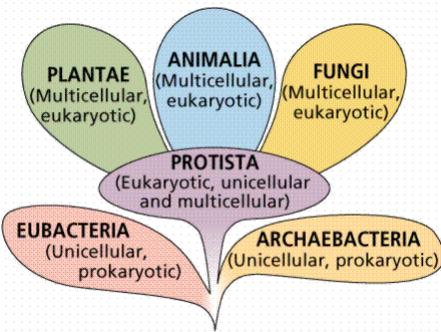


Small

Big

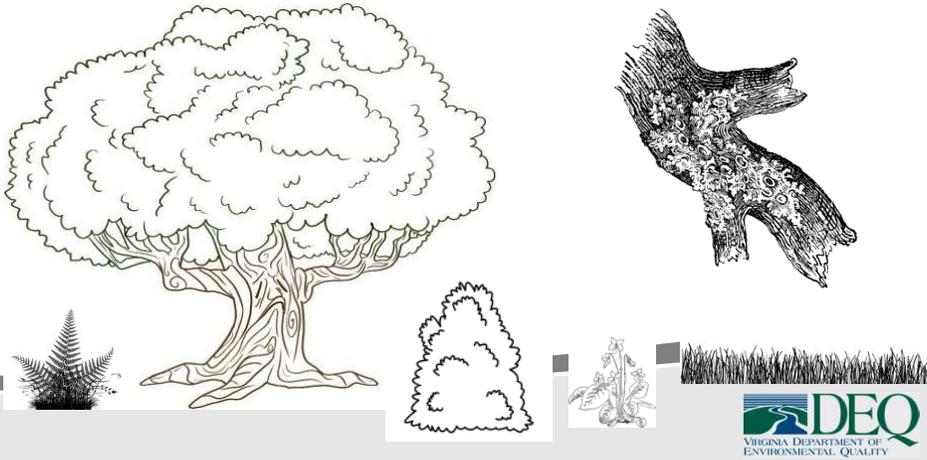


Human beings have the urge to classify things



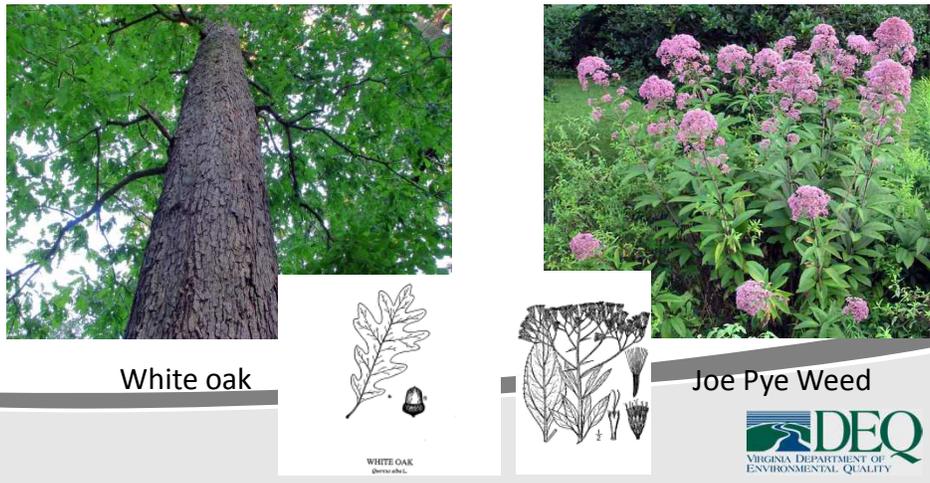
Useful Classifications for ESC and SWM

Tree vs. shrub vs. herb (forb) vs. grass vs. fern vs. moss



Useful Classifications for ESC and SWM

Woody vs. Herbaceous (forbs)



Useful Classifications for ESC and SWM

Woody vs. Herbaceous



Bald cypress



Little bluestem



Useful Classifications for ESC and SWM

Annuals vs. Perennials



Annual ryegrass
(winter annual)

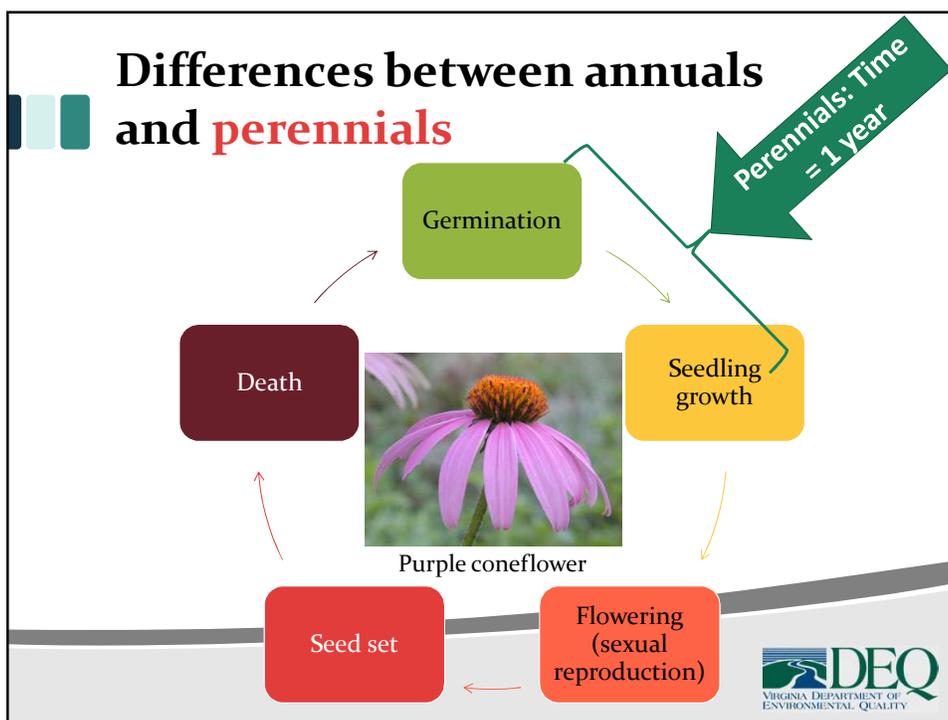
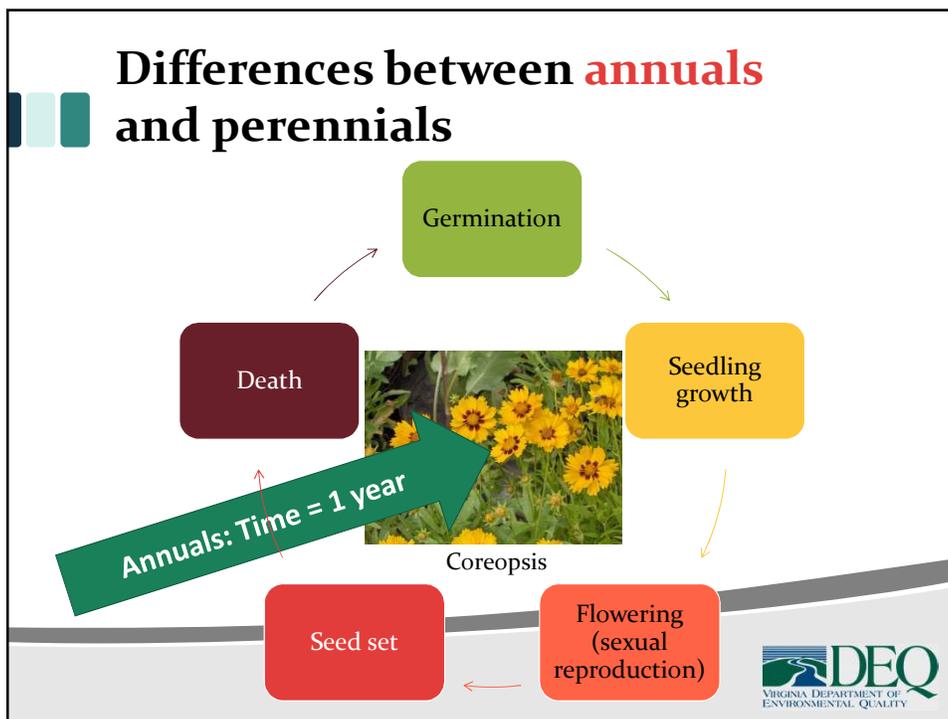


Partridge pea
(summer annual)



Little bluestem
(warm season
perennial)





Differences between annuals and perennials

	Annual	Perennial
Germination	Fast (often 1 to 3 days)	Long (sometimes ½ year or longer)
Growth	Fast	Slow
Flowering	Early and Abundant	At least after one year of growing often much longer
Number of seeds	Many	Often few
Root system	Shallow	Extensive
Replanting	Every year	Long lived



Useful Classifications for ESC and SWM

Legumes vs. Non-leguminous plants

Legumes are a specific type of plants that have an association (symbiotic relationship) with bacteria on their roots (root nodules)



Useful Classifications for ESC and SWM

Legumes vs. Non-leguminous plants

Legume based cropping system

Useful Classifications for ESC and SWM

Legumes vs. Non-leguminous plants

Examples of legumes:	But also:	 <small>Photo copyright Henriette Kress http://www.henriettekress.com</small>
Peas	Red buds	
Green beans	Black locust	
Soy beans	Mimosa	
Peanuts	Wisteria	

Alfalfa

Lupine
Lotus
Clover

Useful Classifications for ESC and SWM

Legumes in ESC and SWM

BMP Clearing House: None

ESCH:

Crown vetch
Sericea lespedeza

Black locust
Honey locust

Flat pea
Birdfoot trefoil
Annual lespedeza
Red clover
White clover



Useful Classifications for ESC and SWM

Flowering plants vs. Non-flowering plants



Butterfly weed



Loblolly pine



Christmas fern



Round headed bush clover



Eastern red cedar

Useful Classifications for ESC and SWM

Flowering plants vs. Non-flowering plants



Butterfly weed



Loblolly pine



Christmas fern



Round headed bush clover



Eastern red cedar

Angiosperms
Gymnosperms

Useful Classifications for ESC and SWM

Warm season vs. Cold season



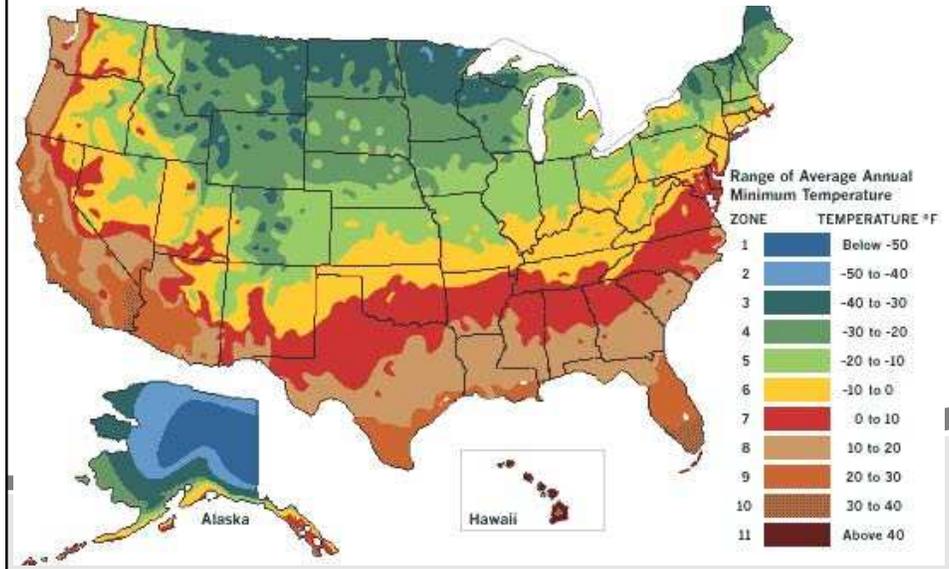
Bermuda grass



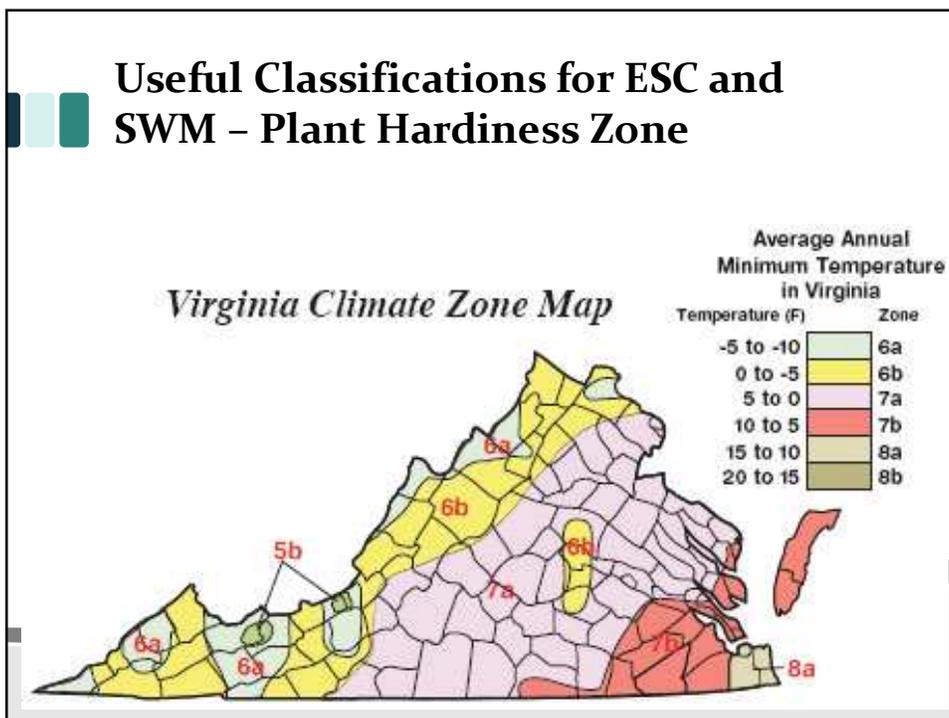
Kentucky bluegrass



Useful Classifications for ESC and SWM – Plant Hardiness Zone

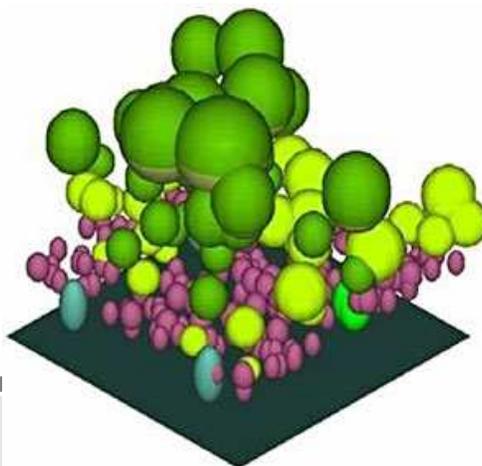


Useful Classifications for ESC and SWM – Plant Hardiness Zone



Useful Classifications for ESC and SWM

Shade vs. Partial Shade vs. Sun



Useful Classifications for ESC and SWM

Shade vs. Partial Shade vs. Sun



Cinnamon fern (●)

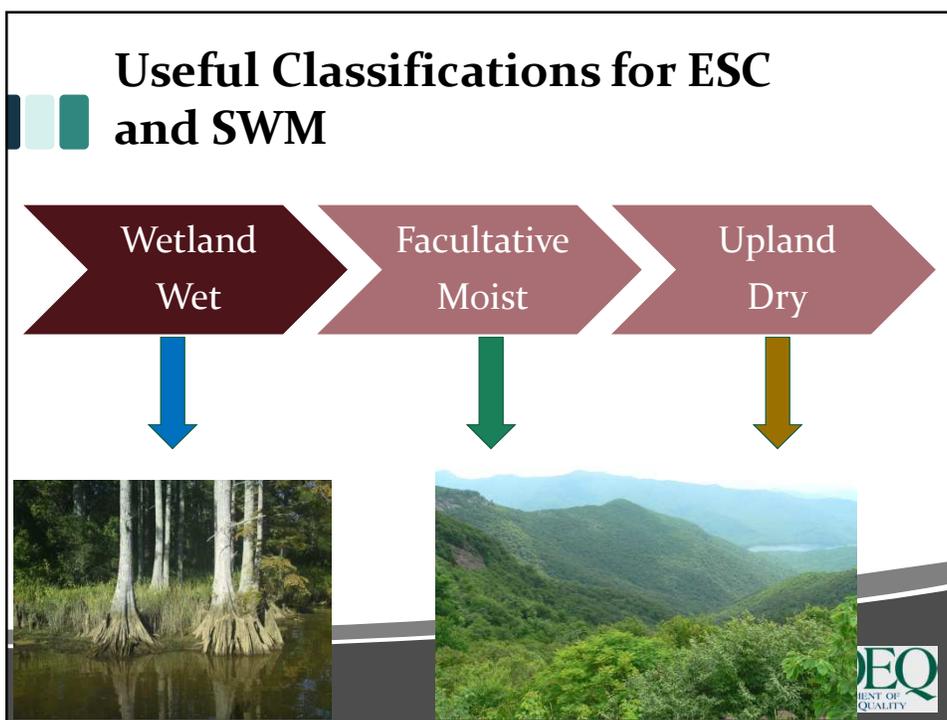
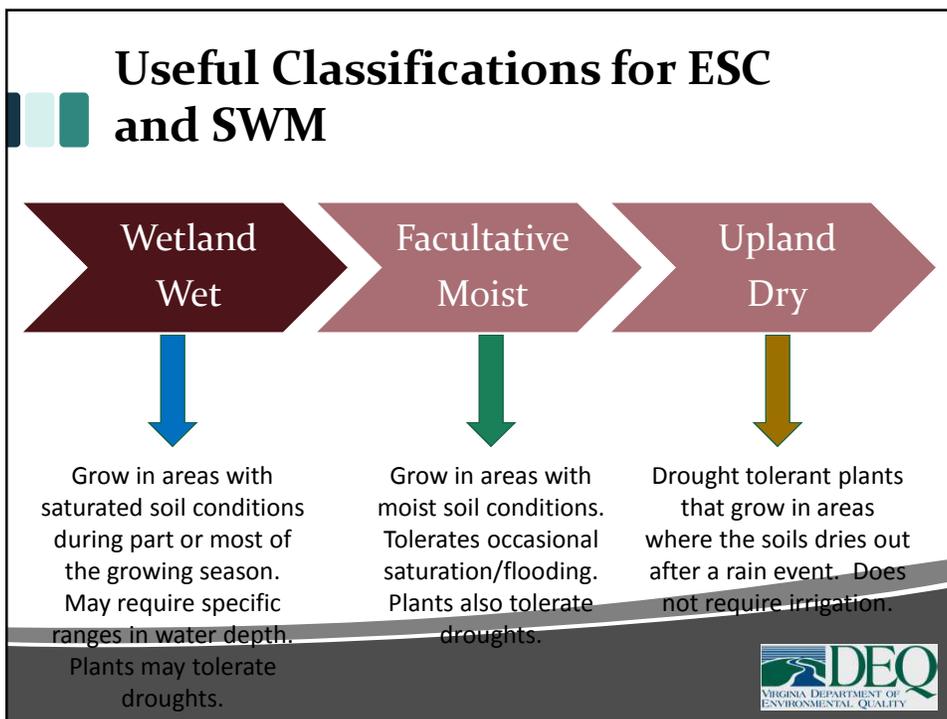


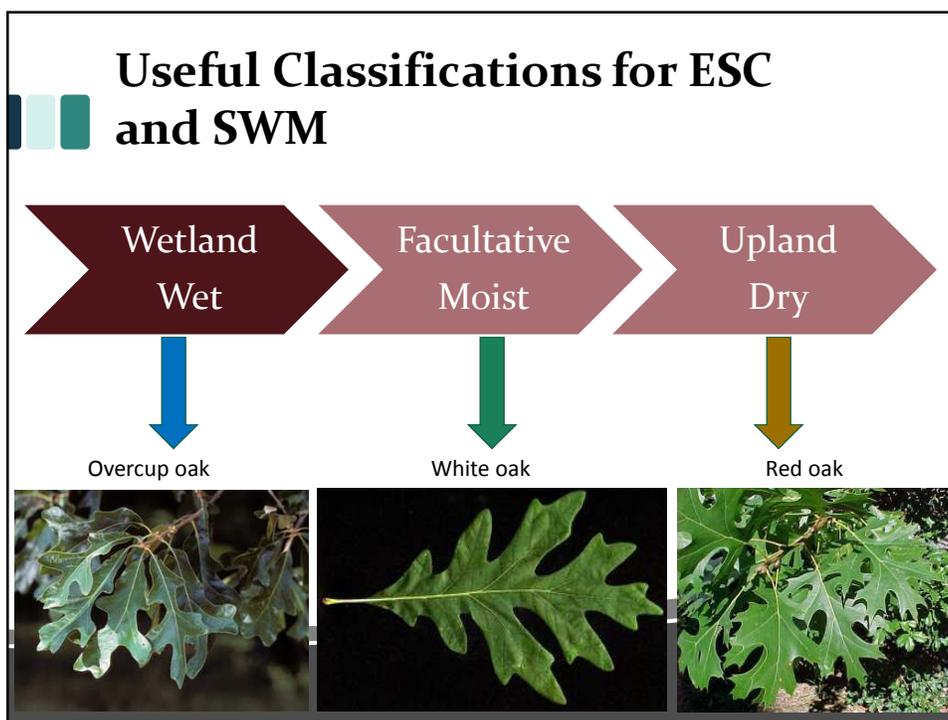
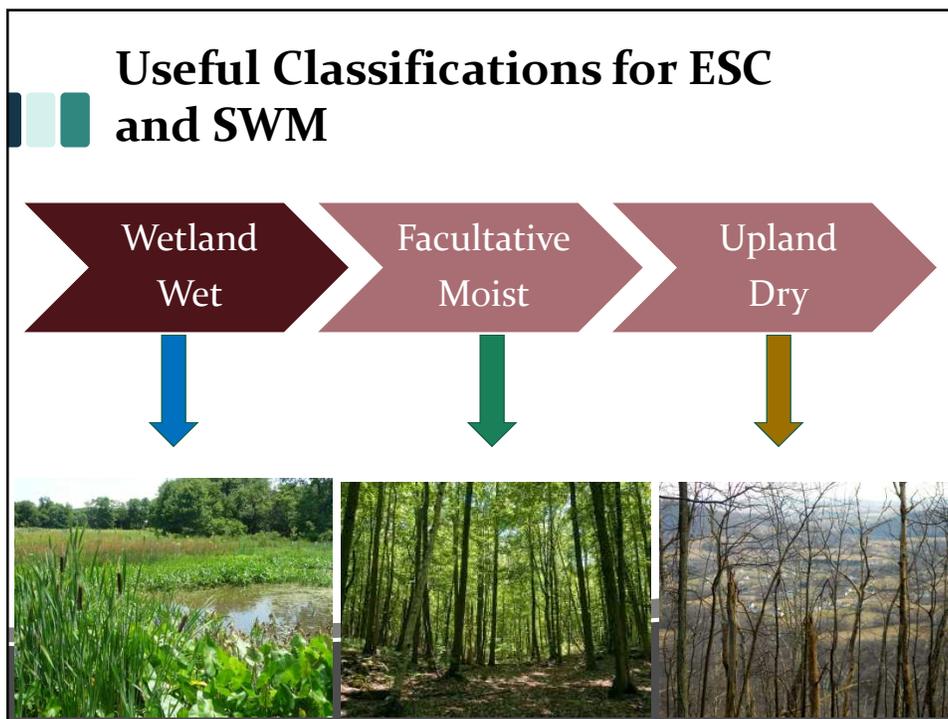
Swamp sunflower (☀)

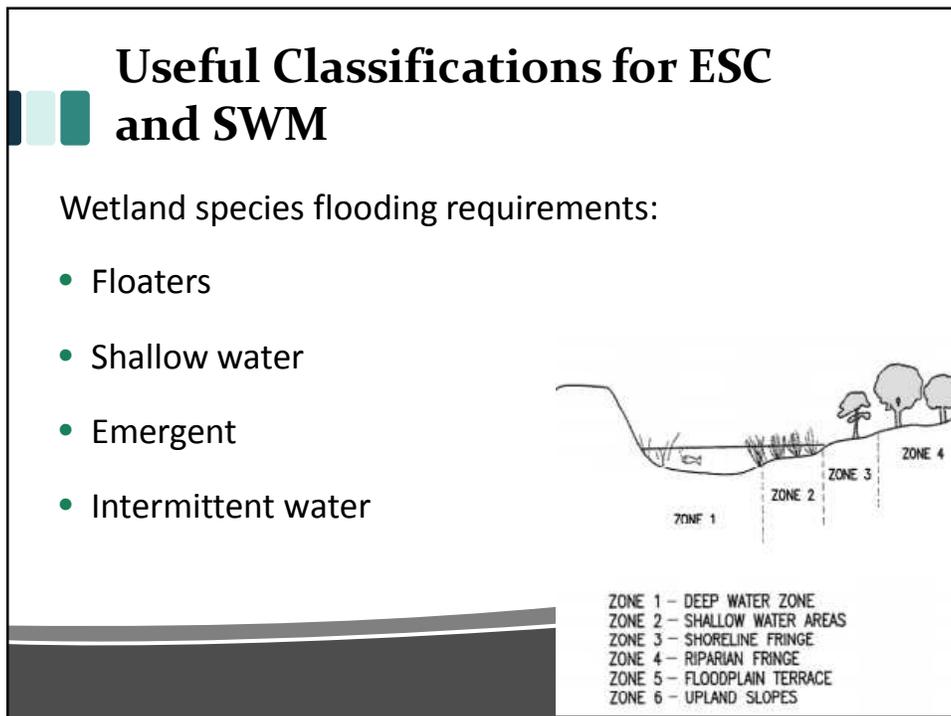
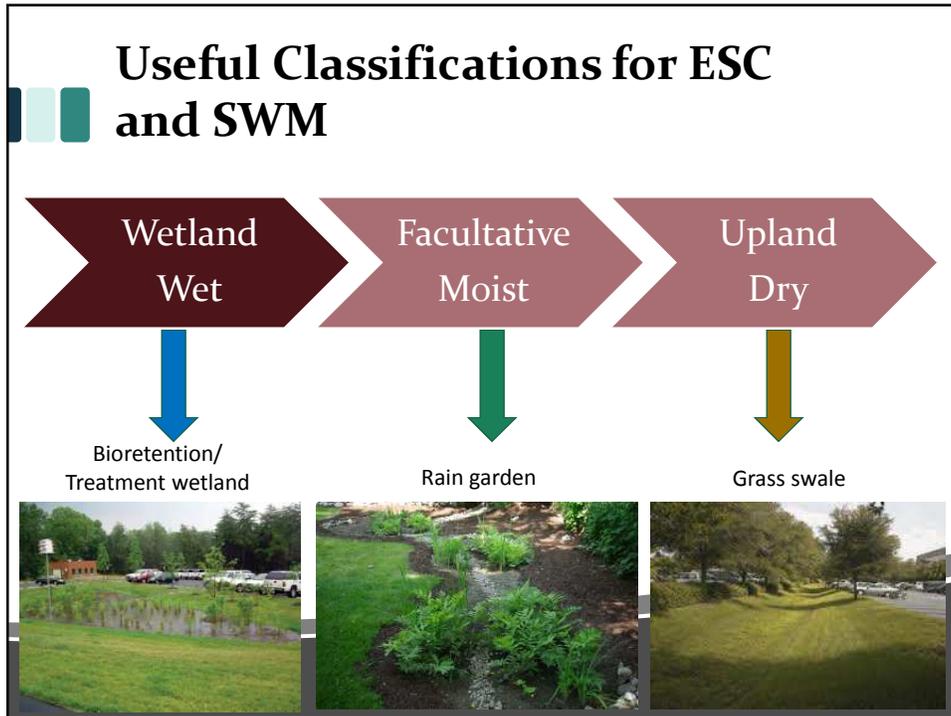


Cardinal flower (●☀)









Useful Classifications for ESC and SWM

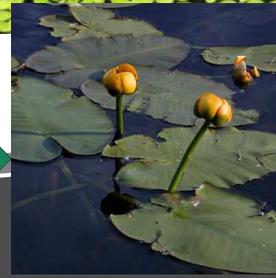
Wetland species flooding requirements:

- Floaters
- Shallow water
- Emergent
- Intermittent water

Duck weed



Yellow Pond Lily



Useful Classifications for ESC and SWM

Wetland species flooding requirements:

- Floaters
- Shallow water
- Emergent
- Intermittent water

Eastern Rose-Mallow



Useful Classifications for ESC and SWM

Wetland species flooding requirements:

- Floaters
- Shallow water
- Emergent
- Intermittent water

Common Rush



Useful Classifications for ESC and SWM

Wetland species flooding requirements:

- Floaters
- Shallow water
- Emergent
- Intermittent water (flood plain)



Useful Classifications for ESC and SWM

Wetland species classification:

Obligate (OBL) → almost always in wetlands (90+%)

Facultative Wet (FACW) → usually occur in wetland

Facultative (FAC) → can occur in wetland and upland

Facultative Upland (FACU) → usually occur in upland

Upland (UPL) → almost always in uplands



Useful Classifications for ESC and SWM

Questions?

