



# Module 3.

Why Native Plants?



# Why a course on native plants?



## Healthy Native Landscape

**Canopy Stratification**

- Over-story (shade intolerant)
- Mid-canopy layer
- Understory (shade plants)

**Root Stratification**

- Deep rooters (tap root)
- Shallow rooters (annuals?)
- Spreaders (grasses)

## Native Plants

## Native Plants

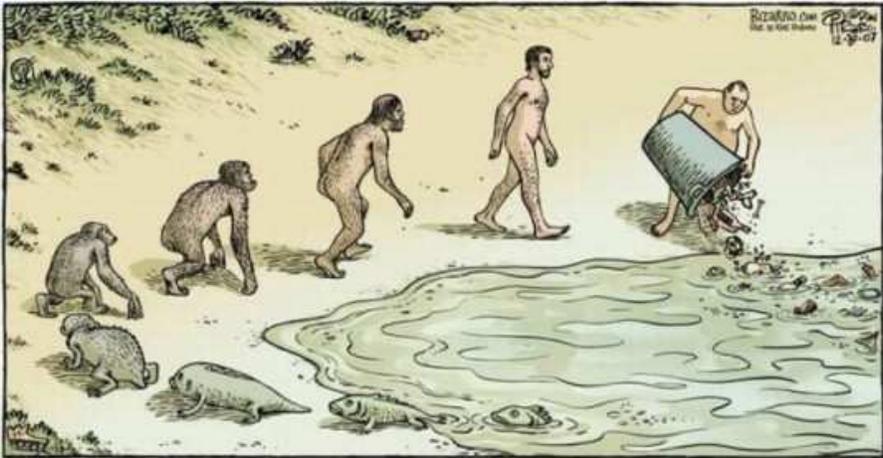


Ha ... in the 13<sup>th</sup> Century my grandparents had much worse growing conditions and the survived and procreated!

Native plants are much better adapted to the local conditions than non-natives



## Evolution



## Native Plants

**Better adapted to most local growing conditions (soil, climate, pest, disease, grazing and browsing)**

Therefore:

1. Need less water
2. Need less pesticides
3. Need less fertilizer
4. Often more useful to native wildlife (birds etc) and insects



## Succession

Over time a planted area will mature and outside plants will invade and become established

Succession

Native & Invasive Plants




## Is this a healthy forest community?



## Non-Natives





## Non-Natives

Are often selected from areas with similar climates or latitudes

**And:**

- Are usually not problematic
- May have an advantage that deer and/or insects don't eat them
- May be pest resistant
- Tropical perennials sometimes function as annuals in our region

## Non-Natives

Are often selected from areas with similar climates or latitudes

**But:**

They have not evolved with the same pest and diseases and they experience in their new country and as a result they can either:

- Bring in new diseases and pests
- Have no natural enemies



## Non-Natives

Are often selected from areas with similar climates

**But:**

Although areas on earth may look the same climatically there are subtle differences in climates, soils and the general environment in all regions → introduced plants have different growth habits (phenology) and may be able to outcompete native plants (Amur honeysuckle)



## Non-Natives in ESC and Stormwater (ESC Handbook)

- German millet - ok
- Redtop (southern Europe/northern Africa) - suspect
- Weeping lovegrass (South Africa) Invasive Alien Plant Species of Virginia  
Weeping Lovegrass (*Eragrostis curvula* (Schrader) Nees)
- Korean lespedeza -suspect
- Sericea lespedeza (China) – highly invasive
- Birdsfoot trefoil (Europe) – suspect
- Orchard grass (Europe) – suspect
- Tall fescue (Europe) – suspect/**endophytic**



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Tony Vandemore www.habitatflats.com

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## Non-Natives in ESC and Stormwater (ESC Handbook)

- **Weeping lovegrass (South Africa)**



## Non-Natives in ESC and Stormwater (ESC Handbook)

- **Korean lespedeza -suspect**



## Non-Natives in ESC and Stormwater (ESC Handbook)

- **Birdsfoot trefoil (Europe) – suspect**



## Non-Natives in ESC and Stormwater (ESC Handbook)

- Orchard grass (Europe) – suspect



## Non-Natives in ESC and Stormwater (ESC Handbook)

- Tall fescue (Europe) – suspect/endophytic



Photo credit: Bob Mugaas, U of MN

Invasive Alien Species	Alternative Virginia Native	
Common Name	Common Name	Scientific Name
Chinese Lespedeza Birdsfoot trefoil Orchard grass Redtop Weeping lovegrass	Roundheaded bushclover	<i>Lespedeza capitata</i>
	Partridge pea	<i>Chamaecrista fasciculata</i>
	Butterfly weed	<i>Asclepias tuberosa</i>
	Joe-pye weed	<i>Eupatoriumdubium</i>
	Black-eyed Susan	<i>Rudbeckia fulgida</i>
	Big blue stem	<i>Adropogon gerardii</i>
	Indian grass	<i>Sorghastrum nutans</i>
	Side oats grama	<i>Bouteloua curtipendula</i>
Crownvetch	Roundheaded bushclover	<i>Lespedeza capitata</i>
	Partridge pea	<i>Chamaecrista fasciculata</i>
	Big blue stem	<i>Adropogon gerardii</i>
	Little blue stem	<i>Schizachyrium scoparium</i>
	Indian grass	<i>Sorghastrum nutans</i>
Tall fescue	Switchgrass	<i>Panicumvirgatum</i>
	Big blue stem	<i>Adropogon gerardii</i>
	Little blue stem	<i>Schizachyrium scoparium</i>
	Indian grass	<i>Sorghastrum nutans</i>
	Switchgrass	<i>Panicumvirgatum</i>
	Broomsedge	<i>Adropogon virginicus</i>
	Deertongue	<i>Dichantheium clandestinum</i>
	Side oats grama	<i>Bouteloua curtipendula</i>
	Canadian wildrye	<i>Elymus canadensis</i>
	Bottlbrush grass	<i>Elymus hystrix</i>
Virginia wildrye	<i>Elymus virginicus</i>	

## Non-Natives → Invasive species

Are often selected from areas with similar climates

**Three classifications of invasiveness in Virginia:**

1. Low (16)
2. Medium (36)
3. High (37)

The screenshot shows the 'Virginia Invasive Plant Species List' page. It features a navigation menu on the left with categories like 'Natural Heritage', 'State Parks', and 'Soil and Water'. The main content area is titled 'NATURAL HERITAGE' and 'Virginia Invasive Plant Species List'. It includes a search bar, a list of species with their invasiveness ranks (High, Medium, Low), and a detailed description of the threats they pose to native species and ecosystems. The page also includes a 'Home' button and a 'Search DCR Site' button.

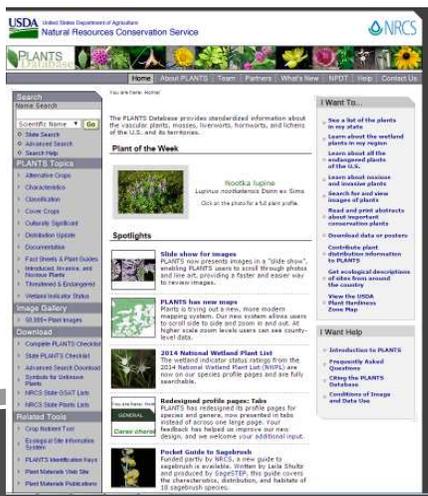
## Non-Natives

Are often selected from areas with similar climates

**Four classifications by USDA:**

1. Low
2. Medium
3. High
4. Noxious

<http://plants.usda.gov/>



## Noxious Species in Virginia



Purple loosestrife (a.k.a. European wand loosestrife)



## Noxious Species in Virginia

Virginia.gov Agencies | Governor Search Virginia.gov

DCR Virginia Department of Conservation & Recreation

Home » Natural Heritage » Invasive Plants Species List

Search DCR Site

Home About VA/NHP Natural Heritage Resources Natural Area Preserves Information Services Invasive Species Cave & Karst Info Flora of Virginia Project

State Parks

Soil and Water

Natural Heritage

Native Plants

Invasive Species

Natural Area Preserves

Natural Community Overview

Information Services

NH Database Search

Conservation Lands Database

All NH Programs

Recreation Planning, Trails and Grants

Dam Safety, Floodplain Management

Land Conservation

Boards and Foundations

Environmental

**NATURAL HERITAGE**

What are invasive plants? | Virginia Department of Conservation & Recreation

**Virginia Invasive Plant Species List**

Printable list (PDF) Spreadsheet (Excel) Invasive Plant Finder

*Invasive plants are species intentionally or accidentally introduced by human activity into a region in which they did not evolve and cause harm to natural resources, economic activity or humans.*

*The list is for educational purposes only and has no regulatory authority.*

To be included on the list, there must be demonstrable evidence that a species poses a threat to Virginia's forests, marshes, wetlands and waterways.

**Invasiveness ranks (I-ranks)** reflect the level of threat to forests and other natural communities and native species. I-ranks used on the list are high, medium and low.

<b>High</b>	Species poses a significant threat to native species, natural communities or the economy.
<b>Medium</b>	Species poses a moderate threat to native species, natural communities or the economy.
<b>Low</b>	Species poses a low threat to native species, natural communities or the economy.

Invasiveness rank increases for species that:

## Example of some of the Invasive Species in Virginia

### High (37):

- Tree-of-heaven
- Canada thistle
- Autumn olive
- **sericea lespedeza**
- Purple loosestrife
- Japanese stiltgrass
- Common reed
- Kudzu
- Japanese knotweed
- Johnson grass
- Chinese privet

### Medium (36):

- Norway maple
- Mimosa
- **English ivy**
- Chinese wisteria
- Border privet
- Wild teasel

### Low (16):

- Crown-vetch
- Japanese wisteria
- Silver poplar
- White mulberry

[http://www.dcr.virginia.gov/natural\\_heritage/invspdflist.shtml](http://www.dcr.virginia.gov/natural_heritage/invspdflist.shtml)



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