INVASIVE PLANTS ARE EVERYONE'S PROBLEM. SPREAD THE WORD, NOT THE INVASIVE PLANTS!

INVASIVE PLANTS

WHAT IS AN INVASIVE SPECIES?

An "**invasive species**" is defined as a species that is:

- Non-native (or alien) to the ecosystem under consideration; and,
- Whose introduction causes or is likely to cause economic or environmental harm or harm to human health. (Executive Order 13112).

WHY ARE INVASIVE PLANTS SUCCESSFUL?

Many invasive plant species produce large quantities of seed.

Many invasives thrive on disturbed soil.

Invasive plant seeds are often distributed by birds, wind, or unknowingly humans allowing seed to moving great distances.

Some invasives have aggressive root systems that spread long distances from a single plant.

These root systems often grow so densely that they smother the root systems of surrounding vegetation.

Some plant species produce chemicals in their leaves or root systems which inhibit the growth of other plants around them

PURPLE LOOSESTRIFE (*LYTHRUM SALICARIA*)

Aggressive wetland perennial

Look for opposite lance-shaped laves, square stems, purple flowers in a tight spike

Can produce 1 million seeds!

Planted as ornamental, sterile varieties still sold although illegal in Indiana (avoid seed mixes containing *Lythrum*)

YELLOW FLAG IRIS (*IRIS PSEUDACORUS*)

- Perennial grows in variety of wet habitats
- Spread by rhizomes or seeds moving via water
- Form dense clumps-alter wildlife habitat, species diversity and hydrology (trap sediment)
- Poisonous

Photo credits: statebystategardening, bcinvasives

COMMON REED (*PHRAGMITES AUSTRALIS*)

- Phragmites is a very tall invasive grass
- Can spread from stem fragments, root fragments, and/or seed
- Severely degrades wetlands, can spread on roadsides
- Herbicide usually needed to control

Chinese Silvergrass (*Miscanthus sinensis*)

- Perennial can grow to 8-feet tall
- Long leaves have silver midrib
- Flower spikes 8-10 inches long
- Persist into winter as silvery plumes
- Common landscaping plan can spread easily out of plantings, displacing native vegetation
- Alters fire regime

JAPANESE BARBERRY (*BERBERIS THUNBERGII*)

Leaves: small, alternate, oval to spoon-shaped, smooth margins, clustered in tight bunches above spines

Numerous spiny stems, slightly curving, inner bark is yellow

Clusters of small yellow flowers, fruit is small red, egg-shaped berries

Linked to the increase in Lyme Disease

Terrestrial Plant Rule

BURNING BUSH (*EUONYMUS ALTUS*)

Leaves: small, opposite, elliptical with pointed tips, small toothed margins, turn bright red in Fall

Distinct winged stems

Small yellow to green flowers, fruit is small red berries

CALLERY PEAR (PYRUS CALLERANA)

- Listed as Invasive in several other states
- Can hybridize and produce fertile fruit
- Prone to wind and ice damage
- Easily dispersed by birds
- Fast growing, crowds out native species
- Excellent roosting tree for blackbirds, grackles and starlings – unfortunate for any car underneath!

INDIANA TERRESTRIAL PLANT RULE

Beginning April 18, 2020, no one may sell, gift, exchange, distribute, transport or introduce any of the 44 species without a permit from the IN Department of Natural Resources - Division of Entomology and Plant Pathology (DEPP).

LANDSCAPING WITH NATIVE PLANTS

Jodie Overmyer

Marshall County Soil and Water Conservation District

WHY is it SO important to incorporate native plants into our landscaping???

So many reasons, but #1 is that they attract INSECTS!!!

INSECTS ARE.....

Pollinators

Food for bird species

NATIVE PLANTS SUPPORT HORDES OF INSECTS!

NATIVE PLANTS			VS		NON-NATIVE PLANTS	
Columbine	18				Boxwood	1
Spicebush	18				Forsythia	1
Joe Pyes	36				Daylilies	0
Asters	105				Myrtle	0
Goldenrod	112				Zinnia	0
Chokeberry	206				ButterflyBush	0
OAKS	557				Norway Maple	0

By planting natives, we are creating habitat for insects that support ALL wildlife, and US!!!

OTHER REASONS TO PLANT NATIVE PLANTS……..

They are adapted to our environment, need fewer resources

- DEEP root systems so need less water thus lower water and sewer bills
- NOT necessary to fertilize
- MORE resistant to pests, thus need less pesticides so no chemical bills and HEALTHIER living areas

Since they have evolved in our habitat here in the Midwest, they reflect and celebrate our natural heritage.

- They make Indiana look like Indiana, not Japan!

IF YOU BUILD IT, THEY WILL COME!

- By adding/incorporating natives into your landscaping, you will be combining **BEAUTY** and **BENEFIT**!!!!

HOW DO I START?

SEVERAL WAYS.....

- Rip everything out and start over? Expensive and time-consuming.
- Take out a little lawn and replace with native plants for a pollinator or raingarden.
- When a plant dies or otherwise needs to be replanted (maybe it has gotten too large or has disease?) replace with a native. EASY TO DO!

Example: Replace invasive Burning Bush with native Winterthur Viburnum

NATIVE PLANTS I KNOW AND LOVE.....

Plants are like just like people, with likes and dislikes and their own personalities! Get to know them, you will be rewarded with new friends!

These are some of the native plants that I know best and consider near and dear, a few are just aquaintances, but I hope to consider them friends in the near future because they are important to know. Sounds like PLANT POLITICS!

SHADE TREES!

OAKS – many native species. Red, Swamp White, Bur

Considered a KESTONE plant for insects.

SHADE TREES!

BLACK CHERRY

SHADE TREES!

MAPLES – Sugar and Red best, Silver native also.

SHADE TREES!

TULIP TREE – Our state tree!!!

SHADE TREES!

HONEY LOCUST

A few others worth mentioning….

- American Sycamore
- American Linden (Basswood)
- American Beech
- Hickories
- Hackberry
- River Birch

Some easier to find than others, if you have them, save them!

ORNAMENTAL AND UNDERSTORY TREES!

AMELANCHIER

ORNAMENTAL AND UNDERSTORY TREES!

DOGWOOD

ORNAMENTAL AND UNDERSTORY TREES!

BLUE BEECH

ORNAMENTAL AND UNDERSTORY TREES!

REDBUD

ORNAMENTAL AND UNDERSTORY TREES!

BLACK HAW – Viburnum prunifolium

EVERGREENS!

CANADIAN HEMLOCK

EVERGREENS!

AMERICAN ARBORVITAE

EVERGREENS!

EASTERN WHITE PINE

EVERGREENS!

BLACK HILLS SPRUCE – Picea glauca

EVERGREENS!

EASTERN RED CEDAR – Grey Owl Juniper

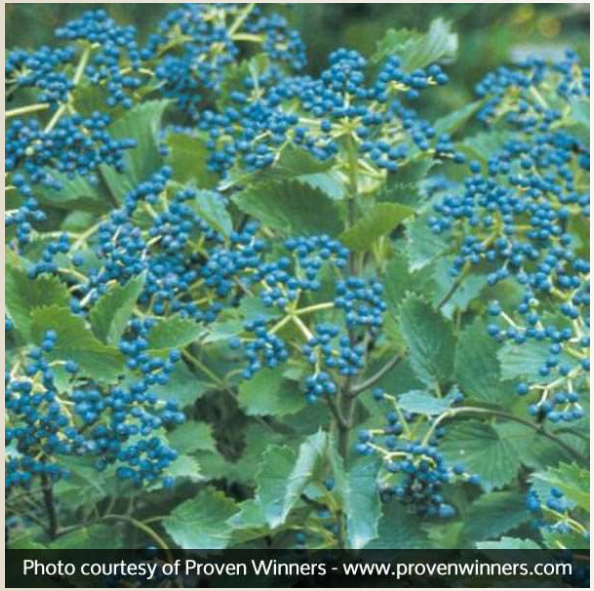
EASTERN RED CEDAR – Skyrocket

EVERGREENS!

HORIZONTAL JUNIPER – Andorra Juniper

HORIZONTAL JUNIPER- Blue Rug Juniper

FLOWERING SHRUBS!



BLUE MUFFIN VIBURNUM

AMERICAN CRANBERRY VIBURNUM

WINTERTHUR VIBURNUM

FLOWERING SHRUBS!

FRAGRANT SUMAC

WITCHHAZEL

DWARF FOTHERGILLA

FLOWERING SHRUBS!

WINTERBERRY

GREY DOGWOOD

BLACK CHOKEBERRY

FLOWERING SHRUBS!

BUTTONBUSH

SPICEBUSH

NINEBARK

FLOWERING SHRUBS!

SMOOTH HYDRANGEA

SUMMERSWEET

RED TWIG DOGWOOD

GRASSES!

SWITCHGRASSES

LITTLE BLUESTEM

INDIAN GRASS

PRAIRIE DROPSEED

NORTHERN SEA OATS

GROUND COVERS!

WILD GINGER

JACOB'S LADDER

PALM SEDGE

VIRGINIA CREEPER

WILD STONECROP

PERENNIALS!

(for a sunny spot)

PURPLE CONEFLOWER

BLACK EYED SUSANS

JOE PYES

LIATRIS

BAPTISIA (FALSE INDIGO)

PERENNIALS!

(for a sunny spot)

NEW ENGLAND ASTER

FALSE SUNFLOWER

GARDEN PHLOX

AMSONIA

BUTTERFLY WEED

PERENNIALS!

(for a sunny spot)

BERGAMOT
(Monarda)

PINK TURTLEHEAD

IRONWEED

CULVER'S ROOT

TALL COREOPSIS

PERENNIALS!
(for a shady spot)

GOATSBEARD

SPIDERWORT

OSTRICH FERN

COLUMBINE

SOLOMON'S SEAL

PERENNIALS!

(for a shady spot)

WILD GERANIUM

MAIDENHAIR FERN

CHRISTMAS FERN

BLUE FLAG IRIS

WOODLAND PHLOX

LET IT GROW!!!

COMMON MILKWEED

STAGHORN SUMAC

SASSAFRAS

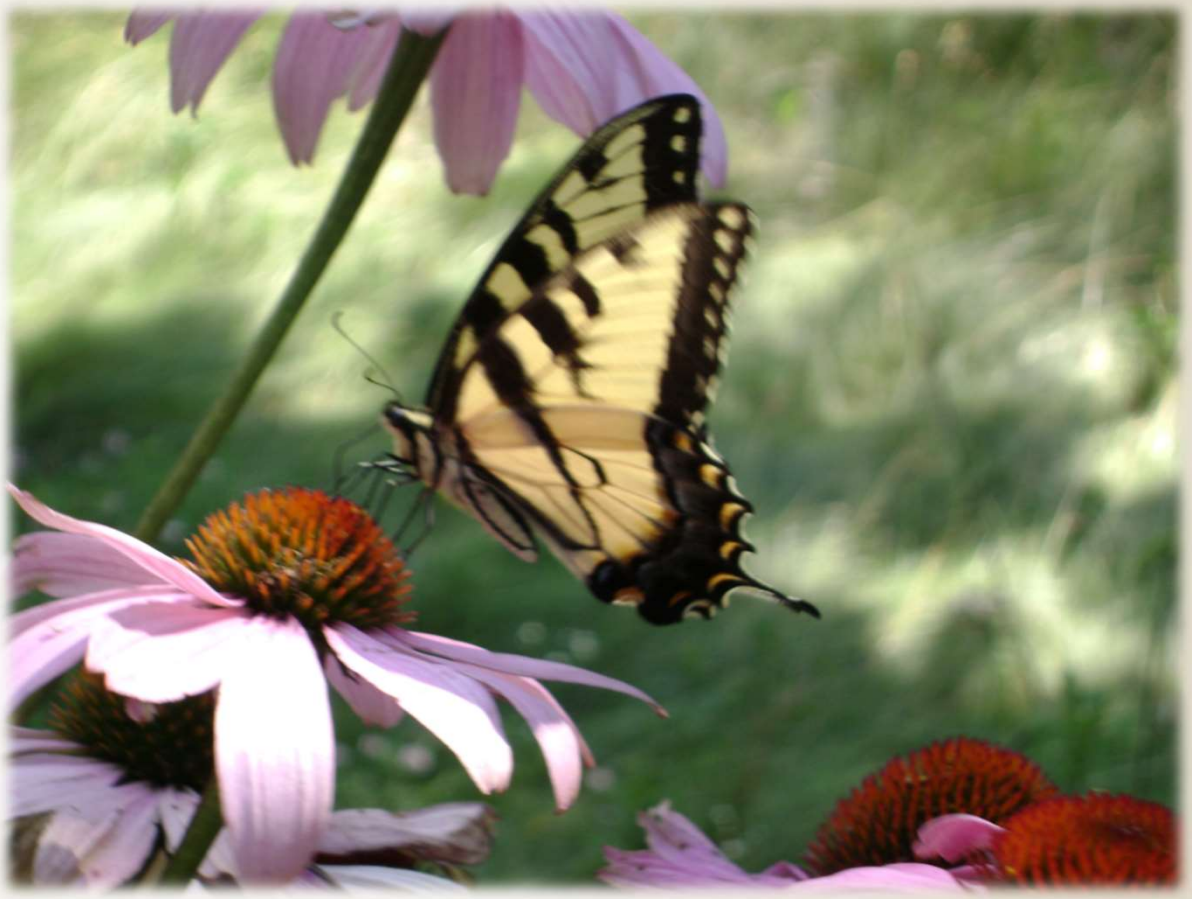
GOLDENRODS

WILD VIOLETS

THANKS FOR ATTENDING!!!

Jodie Overmyer
574-936-2024 X 3

Marshall County
soil and water conservation
DISTRICT



Rainscaping for Home Gardens

Photo Credit:
The Blue Thumb Guide to Raingardens

Presented by:

Debbie Palmer
Lake Maxinkuckee
Environmental Council

What Is Rainscaping?

As defined by Purdue Extension Rainscaping website:

Rainscaping includes the use of sustainable landscape design and management practices, at both the household and community scales, to prevent polluted runoff from reaching water bodies by directing stormwater to be absorbed by plants and soils.

Why Rainscaping Matters

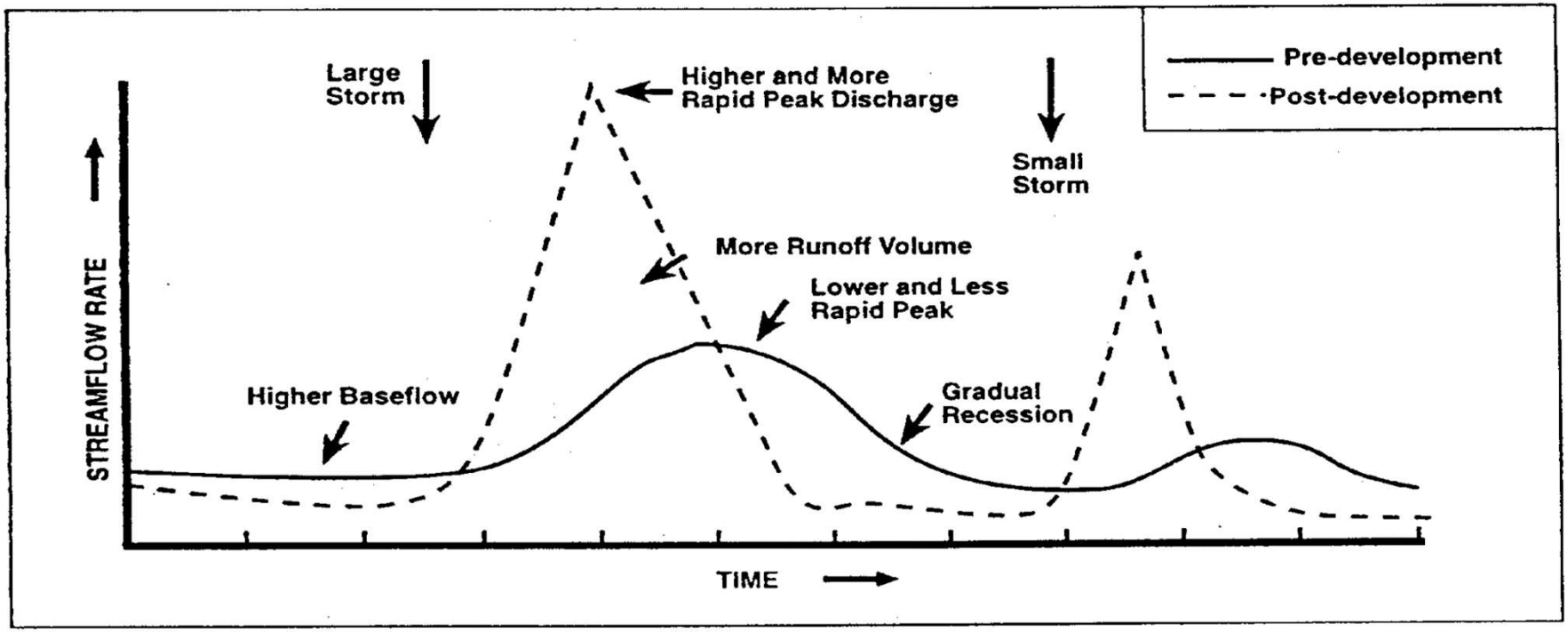
In a natural environment, rainwater moves through the landscape very slowly. Rain is captured on leaves and branches, where it evaporates or trickles down the trunk to the ground. Leaf litter and natural mulch on the ground soak up the rainwater. Deep plant roots loosen the soil and help water soak into the ground.

New development continues to replace green spaces with impervious surfaces like rooftops, paved streets, driveways, sidewalks and parking lots.

Impervious surfaces don't allow water to soak into the ground, therefore more water is flowing into the storm sewers at a very fast rate, carrying pollutants with it – directly into our rivers, streams and lakes.

Raingardens are a way to slow rainwater down and mimic nature

EFFECTS OF URBANIZATION ON PEAK DISCHAGE



Rainscaping Practices range from simple solutions to more complex engineered systems and include:

- Installing rain barrels to collect rainwater to irrigate landscapes
- Constructing bioretention areas such as bioswales and **rain gardens**
- Disconnecting downspouts from storm sewers and redirecting into lawns or gardens
- Maintaining and protecting existing trees and shrubs and other natural features
- Selecting appropriate plants – the right plant for the right place
- Reducing impervious surfaces through installing brick pavers, pervious concrete, or gravel in place of traditional concrete or asphalt
- Planting buffer strips around water bodies

The EPA defines stormwater runoff as a major threat to water quality in our lakes and streams.

Photo credit:
City of Ukiah

Photo credit:
environment.arlingtonva.us

Photo credit:
banthebagspds

Let's Talk Raingardens!

- Landscape feature designed to filter stormwater, reduce flow to storm sewers, and reduce silt and pollution from reaching waterways
- Sized to manage runoff from roof, driveways, and sidewalks.
- Vegetated on bottom and slopes
- Generally uses existing soil rather than engineered soil
  - Some soil amending possible to improve drainage
- Selected plants must tolerate periods of inundation and drought
- Can be a source of food and/or habitat

A Raingarden Is Not A Wetland!

Photos credit:
Amy Hensen

A raingarden is NOT intended to be a wetland or a water garden with permanent water.

It is designed to infiltrate the water into the soil in approximately one day.

What About Mosquitoes?

A raingarden is designed to infiltrate the water into the soil in approximately one day.

The development of a mosquito, from egg to adult, takes 10 – 14 days depending on the air temperature.

If your raingarden is properly designed, you won't breed mosquitoes!

Siting Your Rain Garden

- Water Source – where does water flow?
- Place 10’ away from foundation, 20’ away from basements
- Avoid trees, septic systems and ponded areas
- Place downslope
- **Call before you dig**
- Create an overflow
- Consider mowing habits

Photo Credit:
The Blue Thumb Guide to Raingardens

Sizing Your Rain Garden

- Infiltration test
  - Dig an 8” deep and 8” wide test hole
  - Fill with water
  - Observe 12-24 hours
  - Measure how far water drops at known intervals
- Depth of garden
  - Inches/hours x 24 hrs/day = inches/day
  - Most gardens 4-8” deep (12” max)

An excellent video explaining how to do an infiltration test can be found on the Purdue Extension Rainscaping website.

More detailed information can be found in The Blue Thumb Guide to Raingardens – Chapter 3

Rain Garden Area

- Determine depth from infiltration test
- Size garden to hold 1” rain
- Determine drainage area
- Consider distance from water source
- Garden size
  - Square feet of drainage area/garden depth = square feet of garden

Preparing the Soil and Garden Bed

- Lay out shape
- Channel water to garden
- Shape
  - Dig to desired depth with inlet and outlet
  - Wide, flat bottom depression
  - Construct berm on downhill side
- Amend soil as needed
  - Over-dig base of bed 4-12”, till in compost

Plant Selection and Installation

Plant considerations

- Moisture Tolerances
- Sun Preference
- Size

- Aggressiveness
- Seasonal Interest
- Salt Tolerance

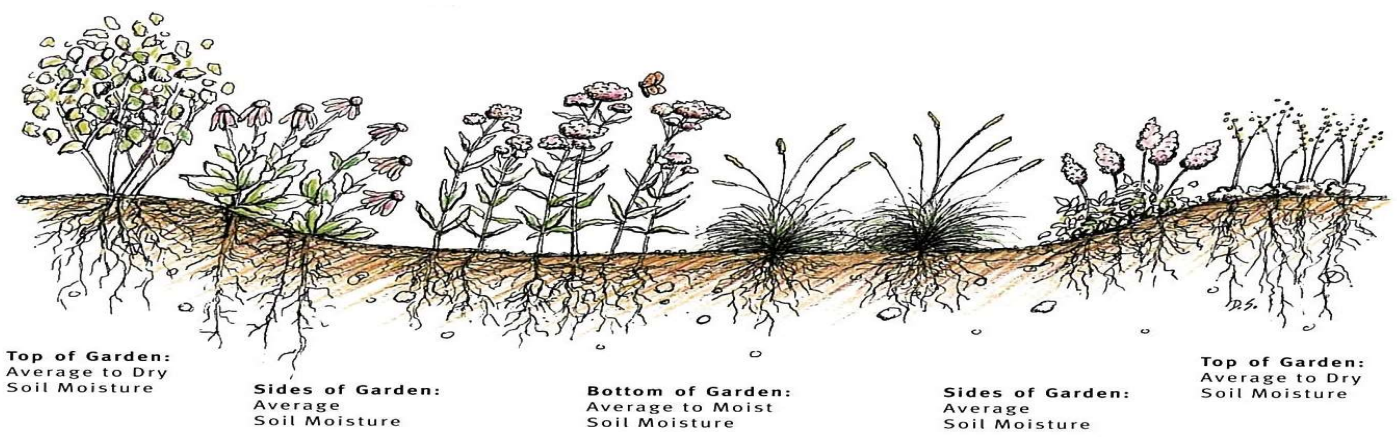


Photo Credit:
The Blue Thumb Guide to Raingardens

Plant Selection and Installation

Remember:

- Right plant right place
- Locate plants according to tolerance
- 2-3” of mulch, shredded hardwood bark

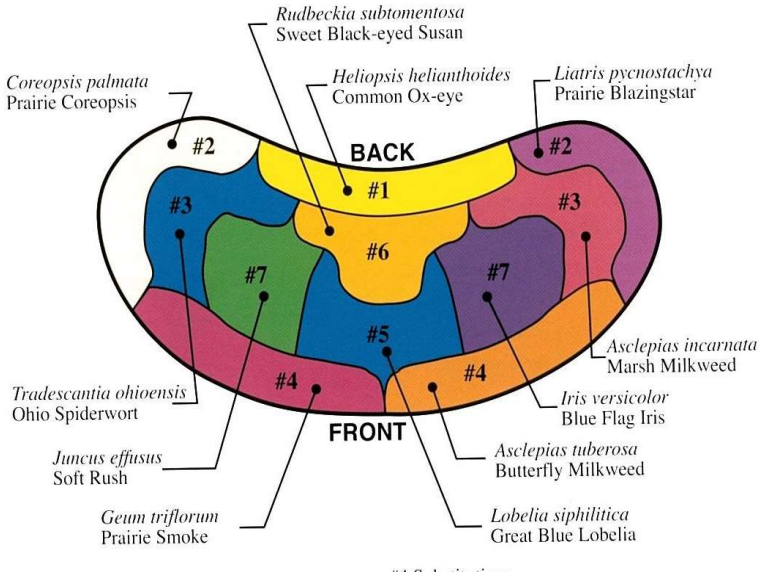
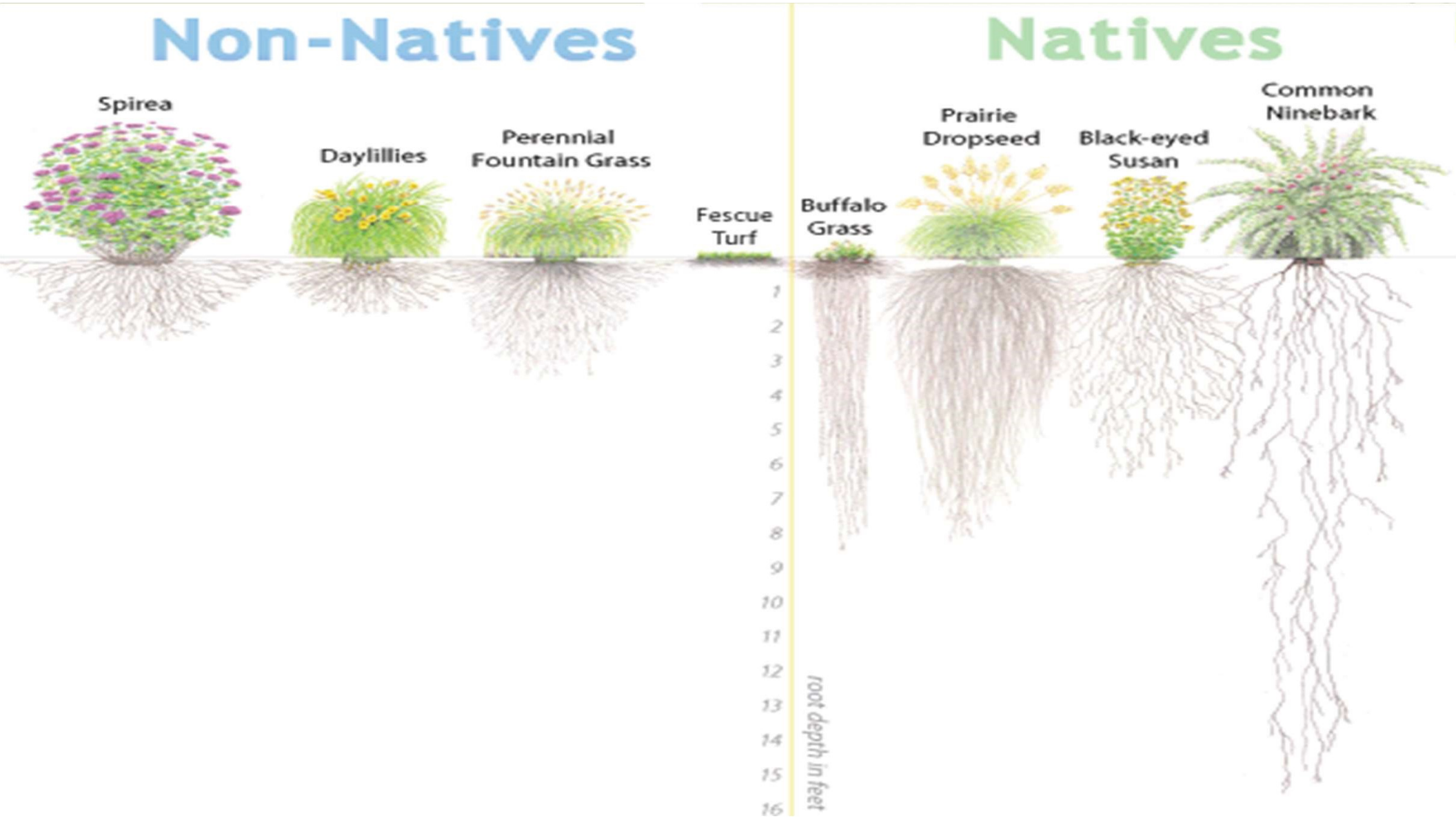


Photo Credit:
The Blue Thumb Guide to Raingardens


Non-Natives
Natives
Spirea
Daylillies
Perennial Fountain Grass
Fescue Turf
Buffalo Grass
Prairie Dropseed
Black-eyed Susan
Common Ninebark
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
root depth in feet

Common Sun and Shade Definitions:

- Full Sun: 6+ hours of direct, mid-day sun.
- Light Shade: 4 – 6 hours of direct sun. Partial canopy of trees.
- Medium Shade: 2 – 4 hours of direct sun, beneath a canopy of trees.
- Full Shade: < 2 hours of direct sun, early or late in the day, not mid-day. Under a canopy of trees with little more than dappled light.

Full Sun

Light/Medium Shade

Full Shade

Maintaining Your Rain Garden

- **REDUCED** maintenance and irrigation once established, **NOT maintenance free!**
- Irrigate for the first two growing seasons – depending on rainfall
- Annually
  - Mulch 2-3” shredded hardwood
  - Prune back dead vegetation
  - Weed until well established
  - Clear leaves and debris
  - Check inlets and outlets

Raingarden on Ancilla Campus

My Raingarden Today……

My Second Raingarden 2020

- Catches runoff from steep driveway
- Adds Beauty
- Attracts pollinators
- Food source ~ native plants
- Habitat
- Detracts Geese

Local Resources

Marshall County
Soil & Water Conservation District

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Lake Maxinkuckee
Environmental Council

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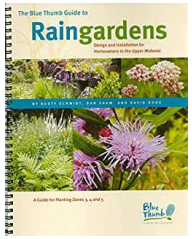

Schedule a Site Visit!

The Blue Thumb Guide to Raingardens
Design And Installation For Homeowners In The Upper Midwest

Public Local Raingardens

- Ancilla College
- Culver Military Academy – Woodcraft Camp
- Centennial Park (Plymouth)– Greenways Trail near Tennis Courts
- Lighthouse - Culver Park

Other Resources

- Purdue Rainscaping Education Program
  https:\\ag.purdue.edu/extension/rainscaping
- Illinois – Indiana Sea Grant Lawn to Lake Program
  http://iiseagrant.org/products_lawncare.php
- Clear Choices Clean Water - IN
  www.clearchoicescleanwater.org
- Blue Thumb Program and Book - MN
  http://bluethumb.org
- National Wildlife Federation – Native Plant Finder
  http://nwf.org/nativeplantfinder
- Indiana Native Plant Society – INPaws
  https://indiananativeplants.org

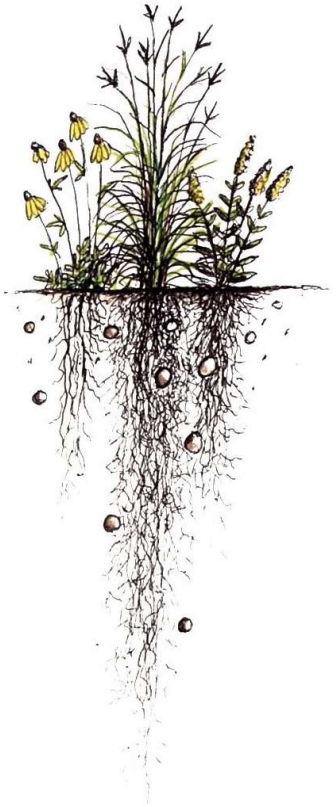

Photo Credit:
The Blue Thumb Guide to Raingardens

Where to Buy Native Plants

IndianaNativePlants.org

- Cardno Native Plant Nursery – Walkerton (min. $100 order)
- Bernacchi's Oak Valley Greenhouse – LaPorte (bernaccisoakvalley.com)
- Prairie Moon Nursery – prairiemoon.com
- One Day Sales

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