



rainscaping

PURDUE RAINSCAPING EDUCATION PROGRAM

Plant Selection and Garden Design

Learning Objectives

At the end of this session, you will:

- Be able to select the most appropriate plants
- Be able to explain rain garden design principles
- Be able to design sample rain gardens



Plant Selection and Garden Design

Plant Selection

Environmental Benefits

Plants can:

- Capture stormwater
- Capture carbon
- Capture particulates in air and water
- Shade and cool soil
- Open pore spaces in soil



Functional Benefits

Plants can:

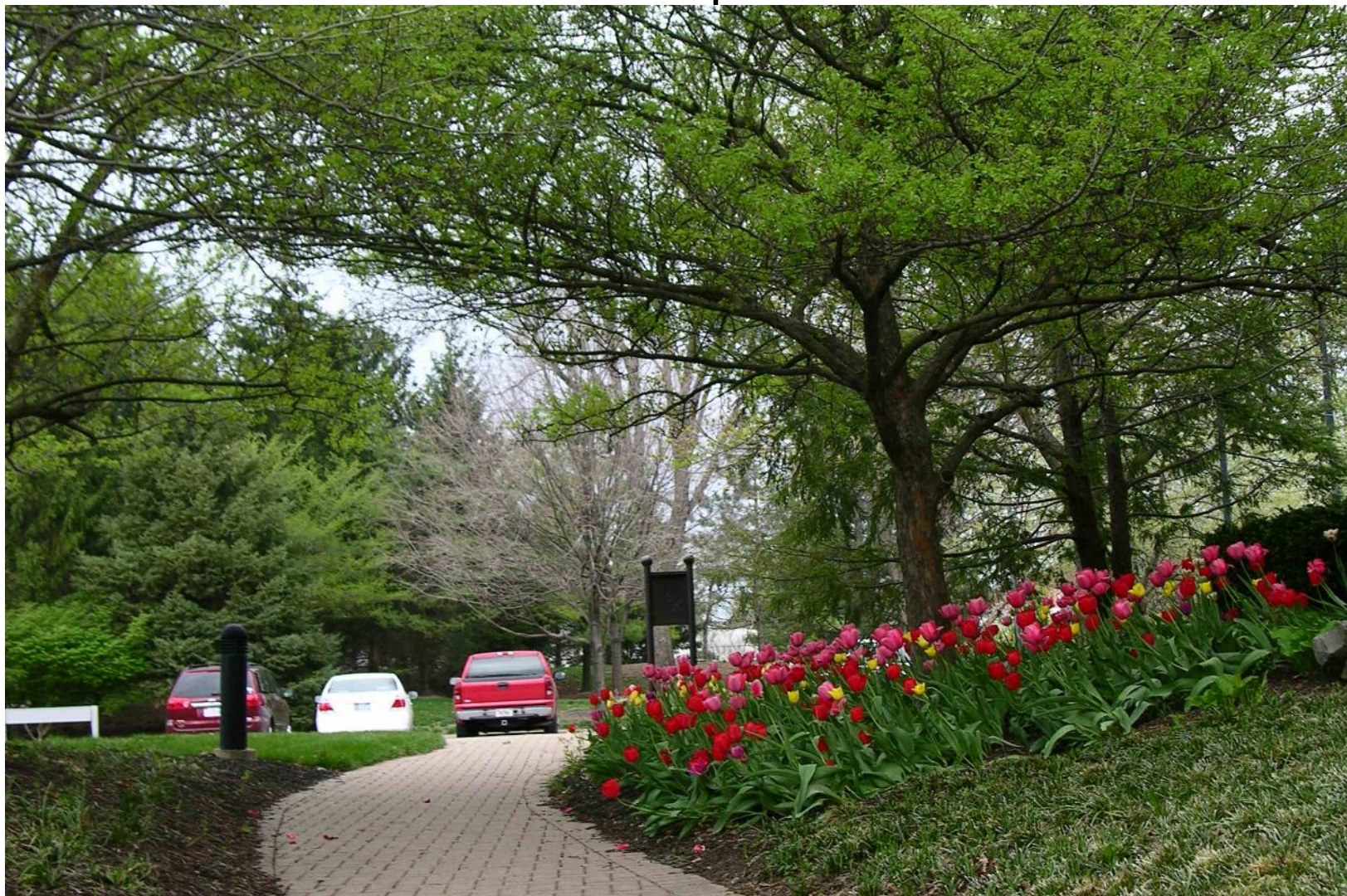
- Create or define spaces
- Frame or anchor areas
- Provide textural contrast
- Screen views
- Provide seasonal interest



Photo credit: Eliana Brown



Plants Can Create or Define Space





Plants Can Frame or Anchor an Area





Plants Provide Textural Contrast





Plants Can Screen a View





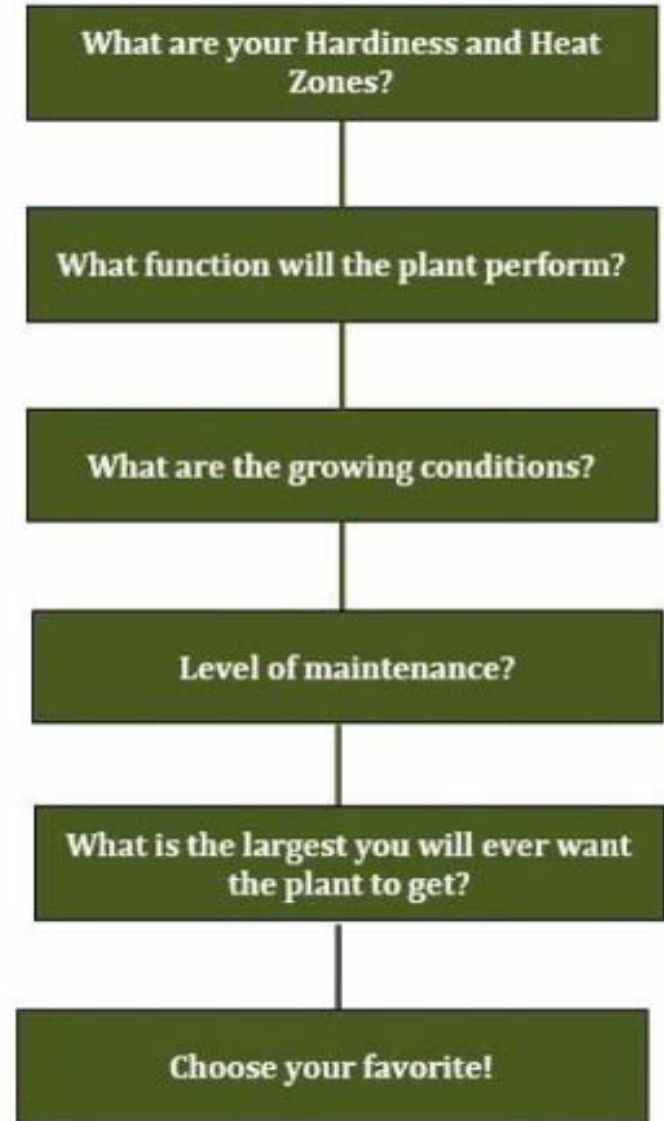
Plants Can Provide Seasonal Interest



Photo credit: Eliana Brown

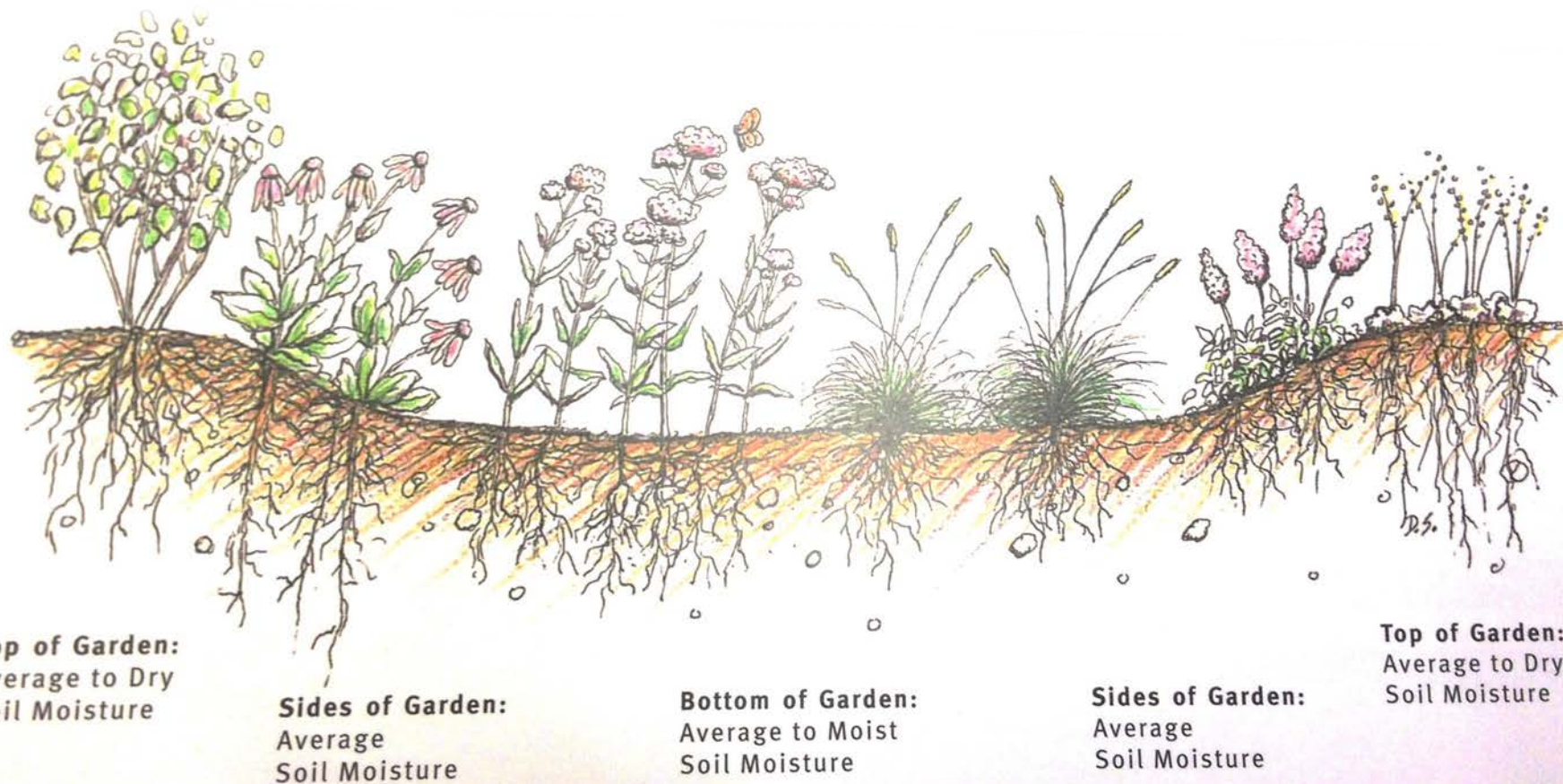


Plant Selection Steps





Moisture Tolerance and Planting Zones



Things to Consider: Physical Factors

- Where you place inlets and outlets
- Plant considerations
 - Sun
 - Seasonal interest
 - Patterns and groupings
 - Aggressiveness
 - Mature height and spread
 - Root mass (*depth* and width)
 - Exposure to deicing materials



Things to Consider: Aesthetic and Personal Preferences

- Edges
- Views
- Hardscapes (benches, paths, art, fences, boulders)
- Wildlife habitats (pollinator plants, feeding stations)

What Is Native?

Definition varies, but generally in the United States a native plant:

- Occurs naturally in a particular region
- Exists without human intervention
- Was present when Europeans arrived (500 years ago!)
- More info at: <https://illinoisplants.org/>





Native Plant Resources

- USDA-Natural Resources Conservation Service PLANTS Database

plants.usda.gov

- University of Connecticut NEMO Rain Gardens website and app

nemo.uconn.edu/raingardens

- *Bringing Nature Home* by Douglas W. Tallamy

www.BringingNatureHome.net

- Illinois Extension Brochures

<https://extension.illinois.edu/cfiv/pollinator-pockets>



Native Plant Sources

- Native Plant Nurseries

<https://illinoisplants.org/native-plant-nurseries/>

- Local and regional seasonal plant sales

<https://illinoisplants.org/native-plant-sales/>



What Is Invasive?

“An alien (or non-native) species whose introduction does, or is likely to cause economic or environmental harm or harm to human health.”

 The National Invasive Species Council



IISC Invasive Landscape Plant Species








- *Acer platanoides* (Norway maple)
- *Ailanthus altissima* (tree of heaven)
- *Alnus glutinosa* (black alder)
- *Euonymus fortunei* (wintercreeper)
- *Pyrus calleryana* (callery pear)

Plant Selection and Garden Design

Garden Design

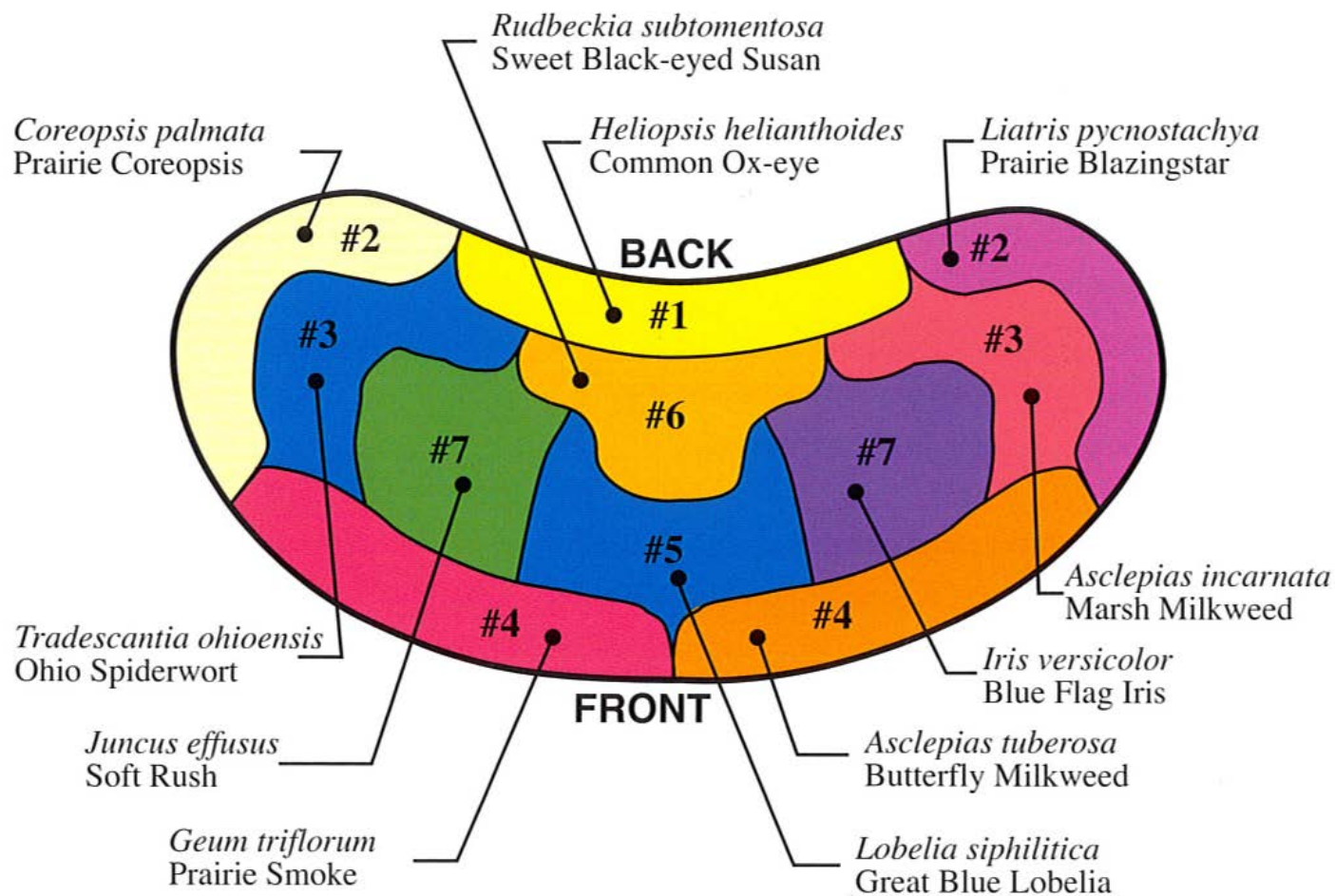


Blue Thumb Guide – Zones

-  #1 — **Back edge.** Dry (average moisture). Tall plants.
-  #2 — **Side edges.** Dry (average moisture). Medium plants.
-  #3 — **Side slopes.** Average (moist soil). Medium plants.
-  #4 — **Front edge.** Dry (average moisture). Short plants.
-  #5 — **Center.** Moist (wet soil). Medium to tall plants.
-  #6 — **Center.** Moist (wet soil). Medium to tall plants.
-  #7 — **Transition.** Average (moist soil). Medium plants.



Example: Native Prairie in Full Sun





Example: Native Prairie in Full Sun



Photo provided by Michigan Master Rain Gardener program



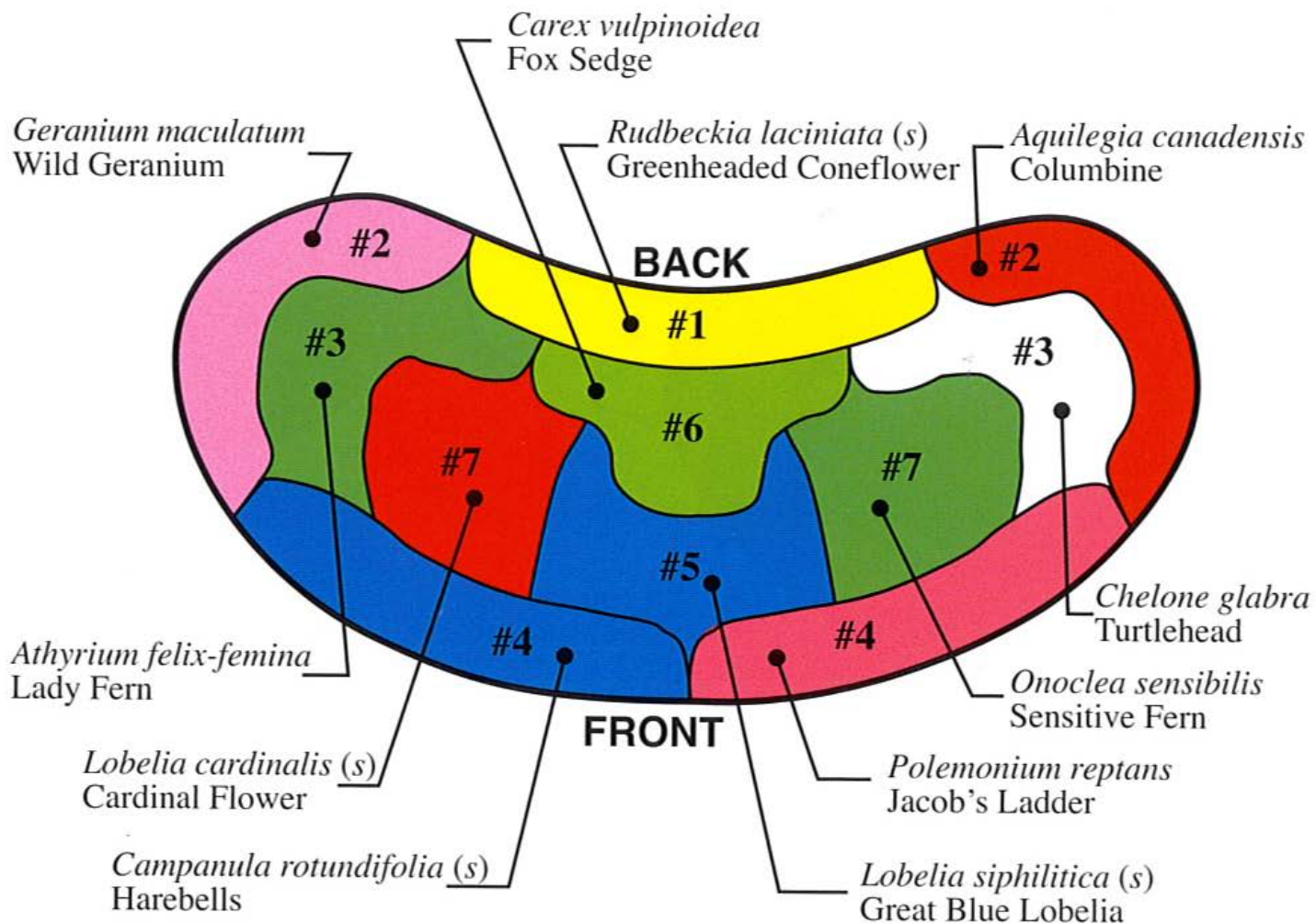
Example: Native Prairie in Full Sun



Photo provided by Michigan Master Rain Gardener program



Example: Native Plants in Shade/Partial Shade





Example: Native Plants in Shade/Partial Shade



Photo provided by Michigan Master Rain Gardener program



Example: Native Plants in Shade/Partial Shade



*Photo provided by Michigan Master
Rain Gardener program*



Example: Native Plants in Shade/Partial Shade

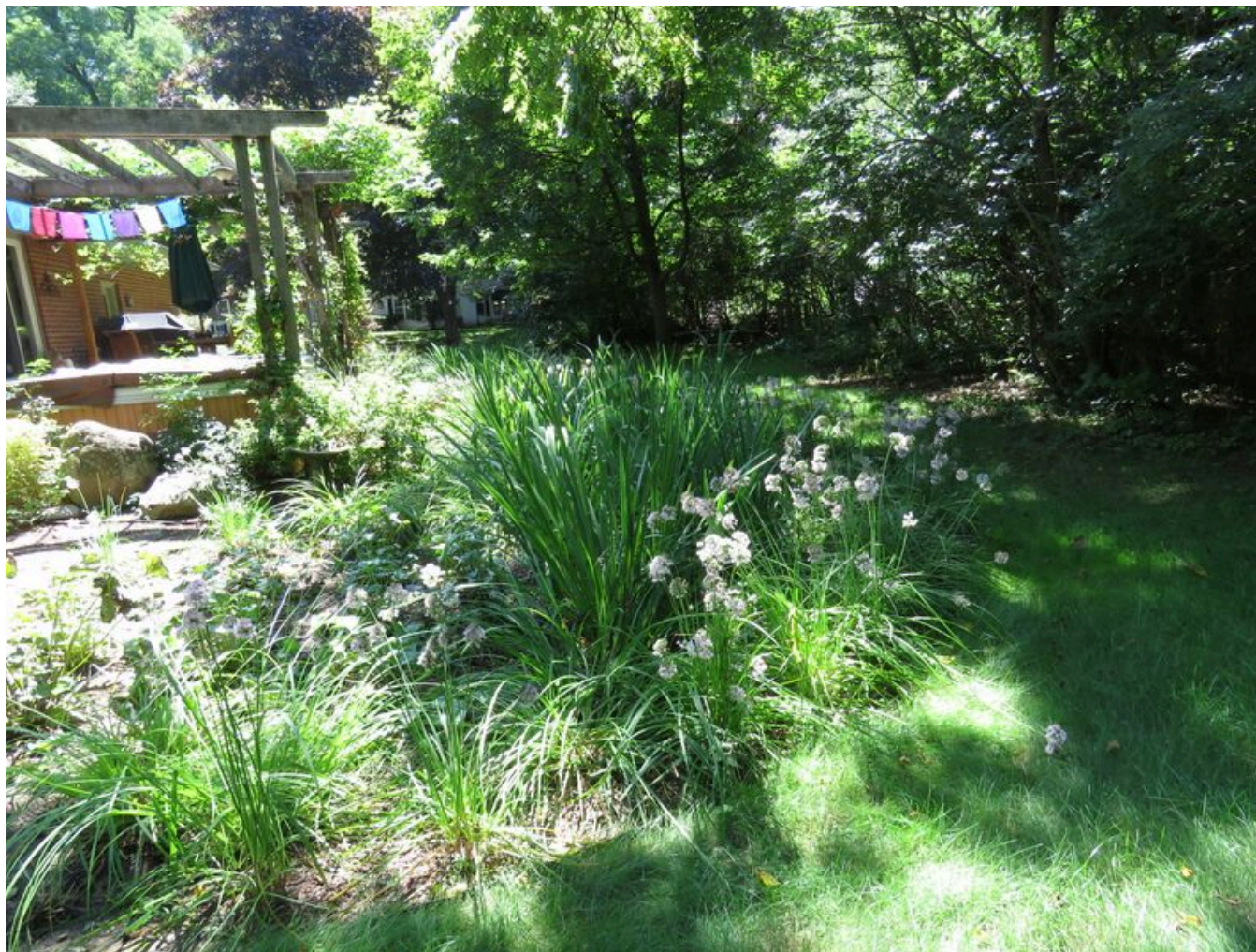
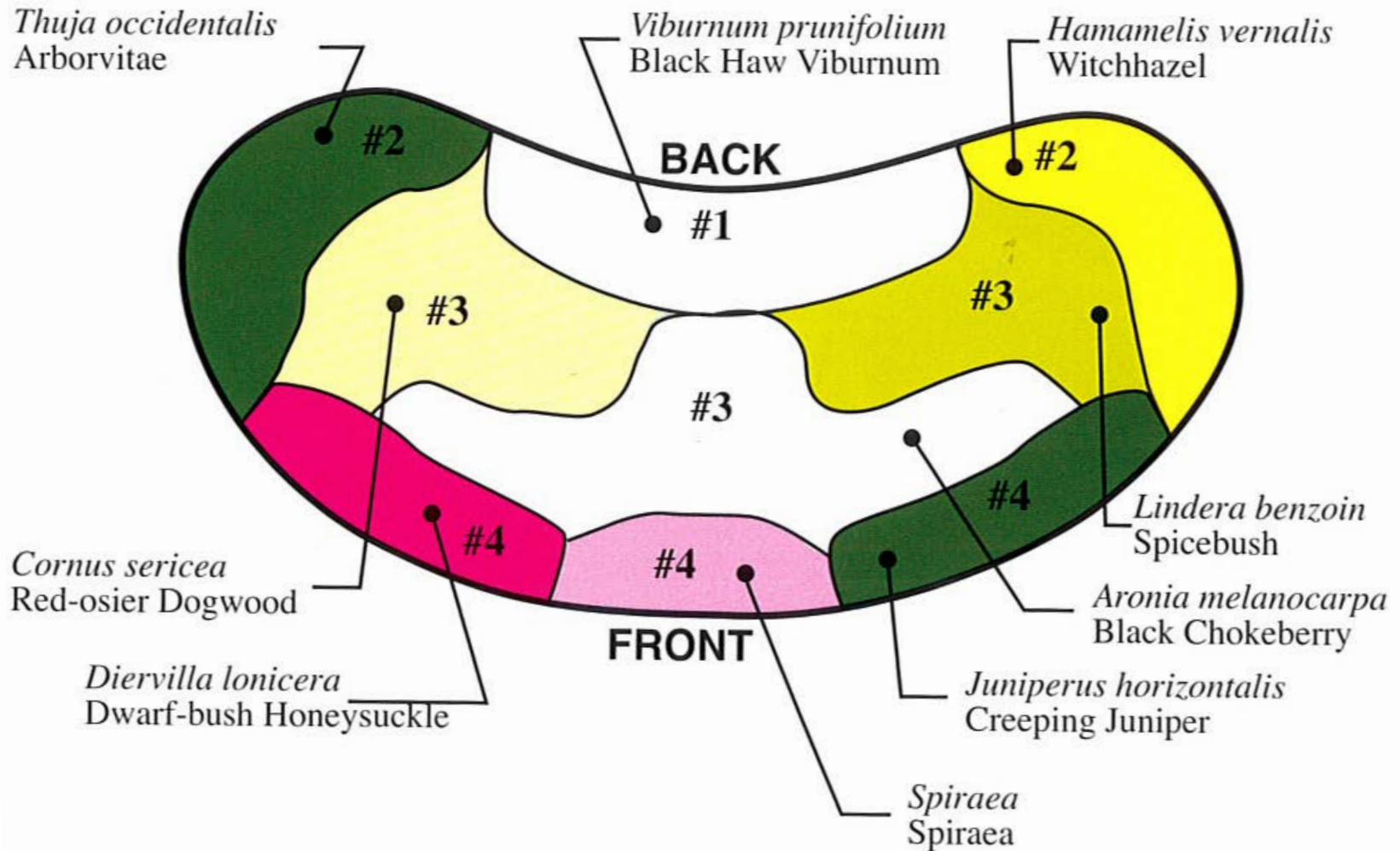


Photo provided by Michigan Master Rain Gardener program



Example: Low-maintenance Shrub Garden





Example: Low-maintenance Shrub Garden



Photo provided by the U.S. EPA



More Rain Garden Design Resources

- New Moon Nursery
<http://www.newmoonnursery.com/>
- Missouri Botanical Garden
<https://www.missouribotanicalgarden.org/nemo.uconn.edu/raingardens>
- *Blue Thumb Guide to Rain Gardens* by Rusty Schmidt
<https://bluethumb.org/raingardens/>
- *Planting in a Post-Wild World* by Thomas Rainer and Claudia West
<https://phytostudio.com/book>



Plant Selection and Design: Review

- Determine your USDA zone
- Figure out how much sun your rain garden will get
- Determine your maintenance level (avoid aggressive and invasive species)
- Decide whether plants must tolerate deicing salts
- Determine whether you want to attract certain wildlife species
- Decide if you want the rain garden to be attractive spring to fall or all year
- Select plants that fit your criteria

Plant Selection and Garden Design

Activity

Plant Selection and Garden Design

Home Learning



Home Learning

- Watch video
 - Installation and Maintenance (12 minutes) go.Illinois.edu/purdue