Transforming Our Urban and Suburban Yards into Wildlife Friendly Habitats

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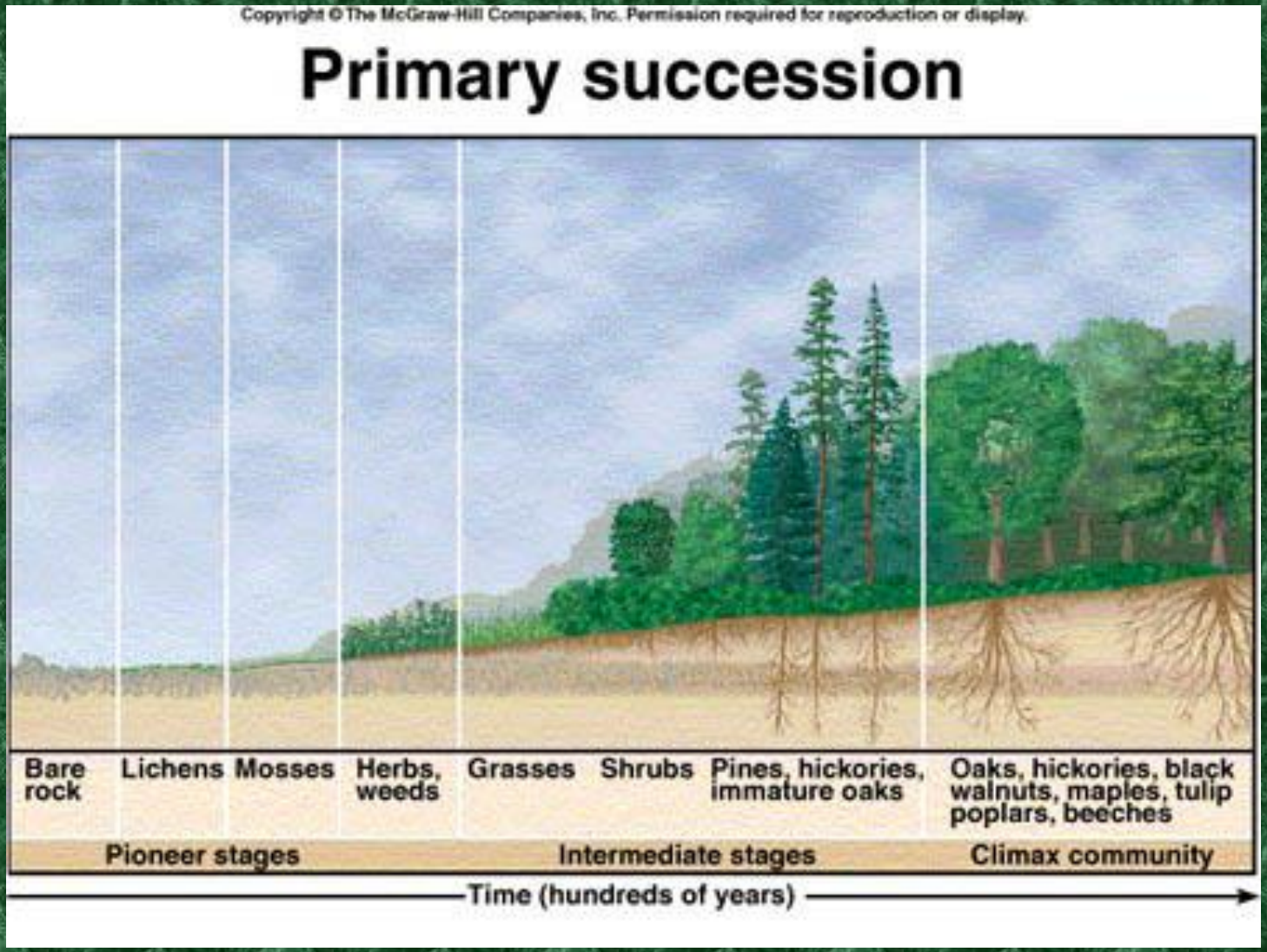
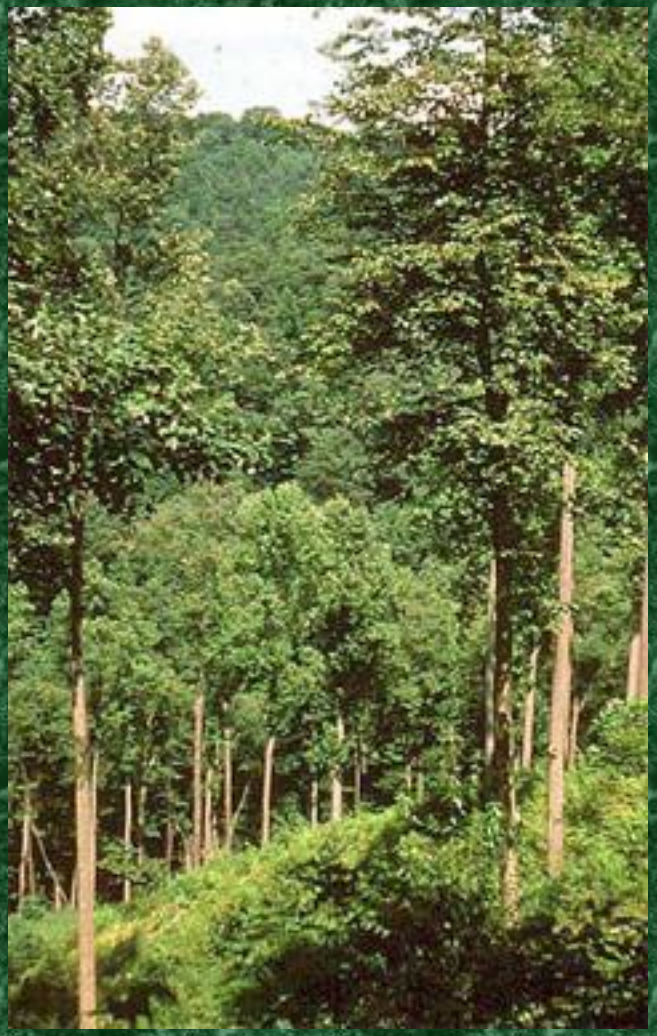
Human Changes to the Landscape Since 1607

- Eastern forests cut down to become farmland



- **Farms abandoned land undergoes succession (old field)**

- Over time forest grows back albeit not identical to one originally cut



- Developing an area with houses, sidewalks, and roads changes land in a way it cannot revert back to forest
- Landscape now requires human management

Effects of Development on Land

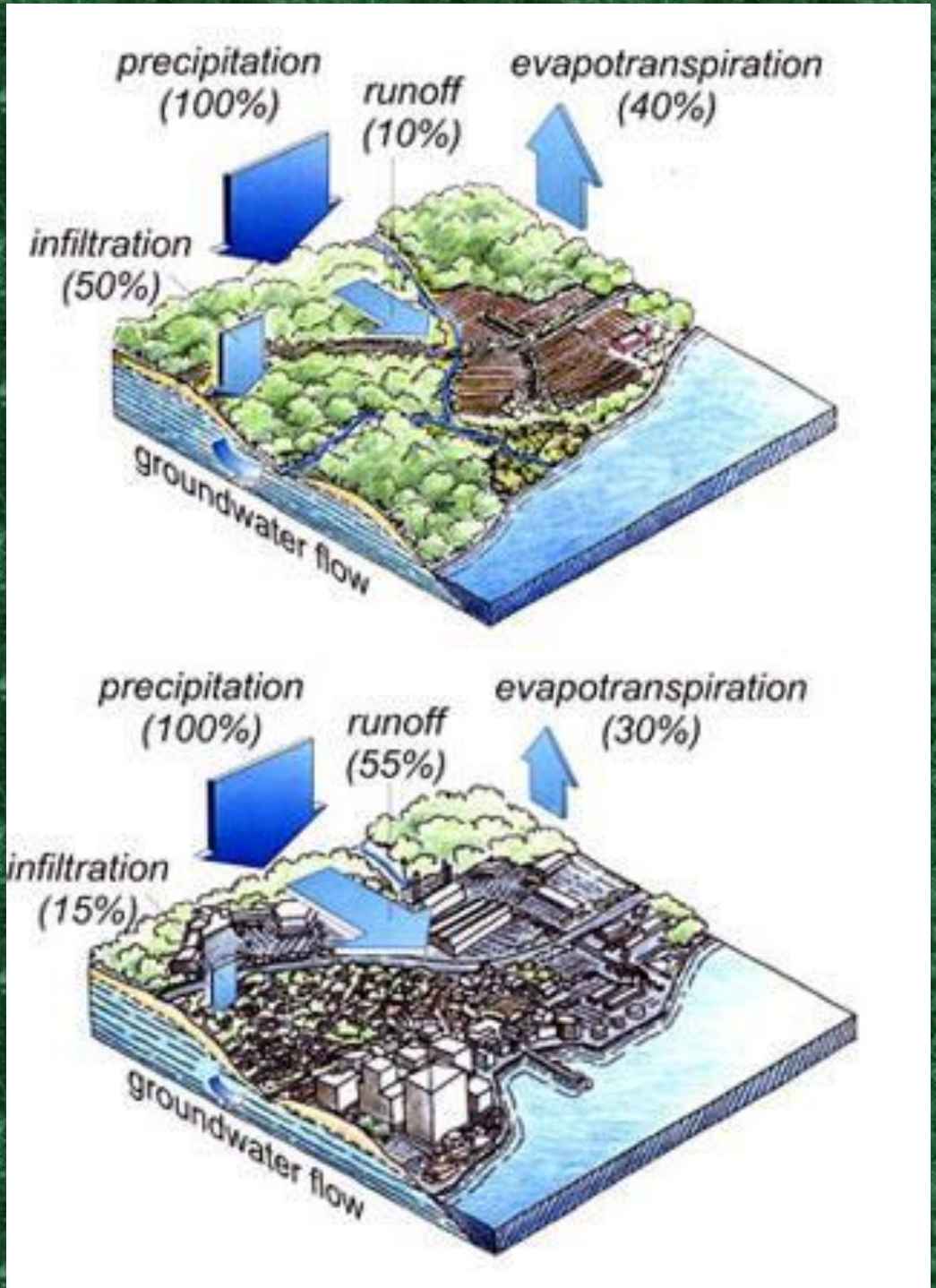
- Destruction of habitat

- **Fragmentation of habitat**

- **Disturbance** and compaction of soils

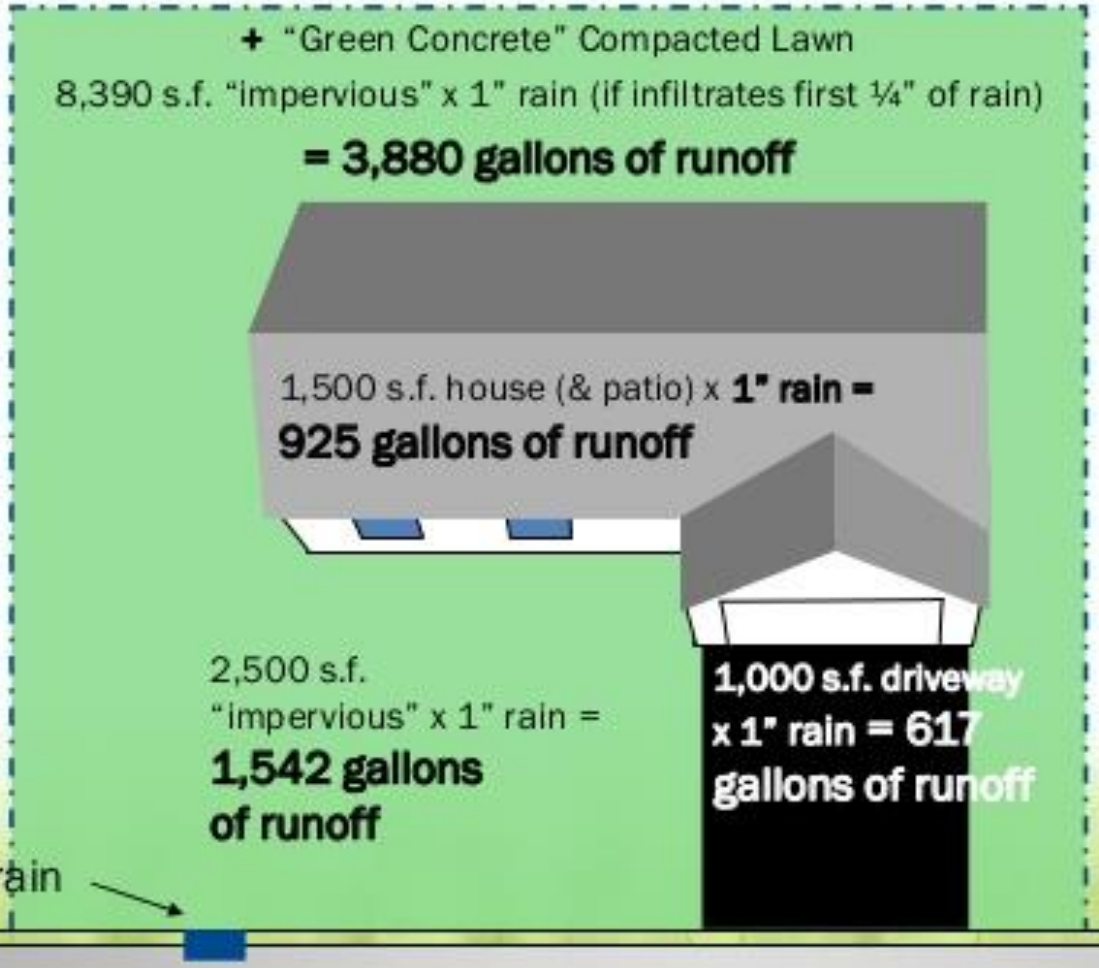
Effects of Development on Water

- Decreased rainfall infiltration into groundwater



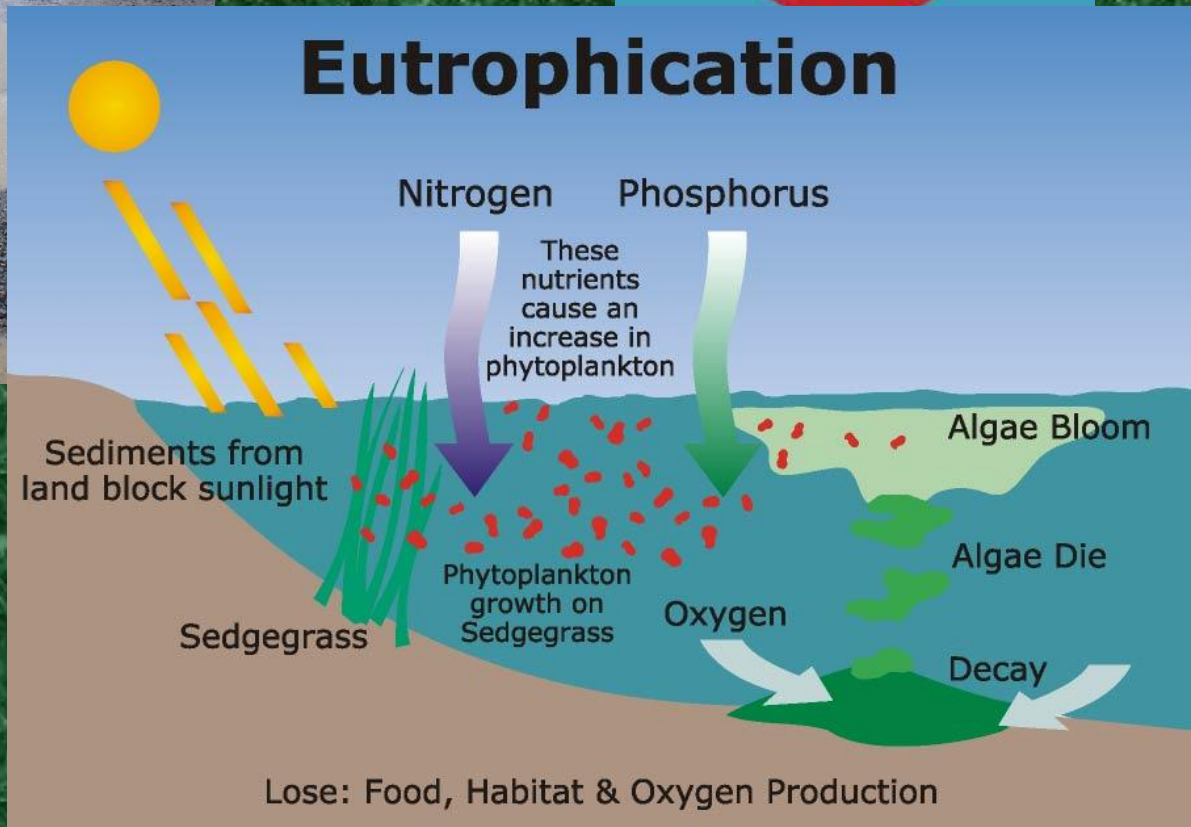
- Increased stormwater runoff, flooding & erosion

How much does an individual home affect stormwater runoff?

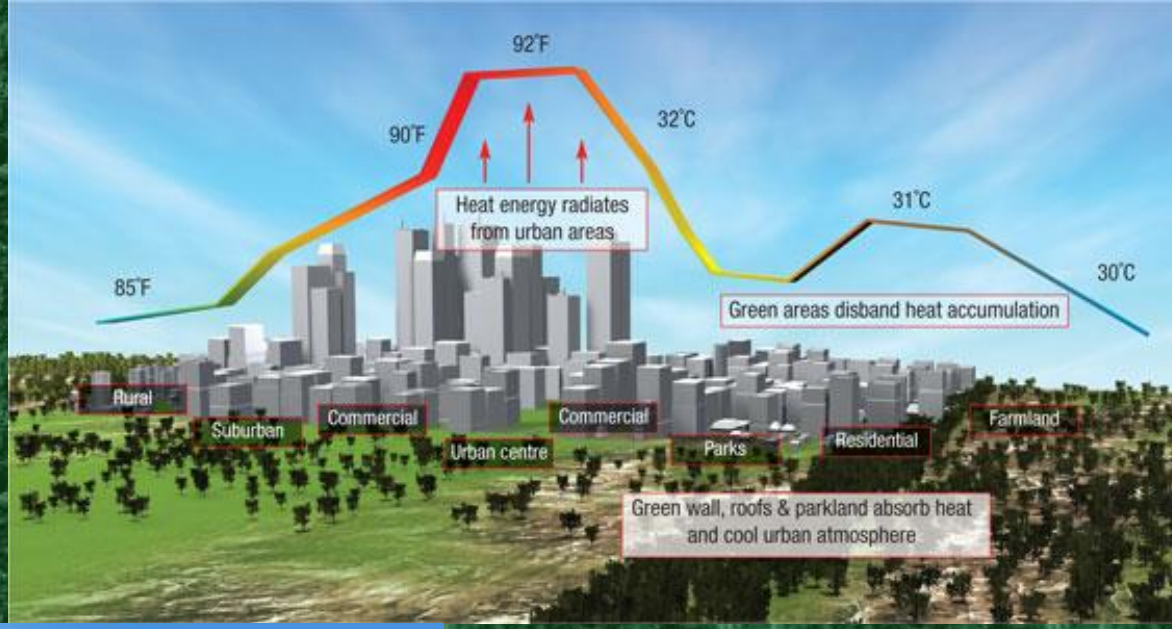


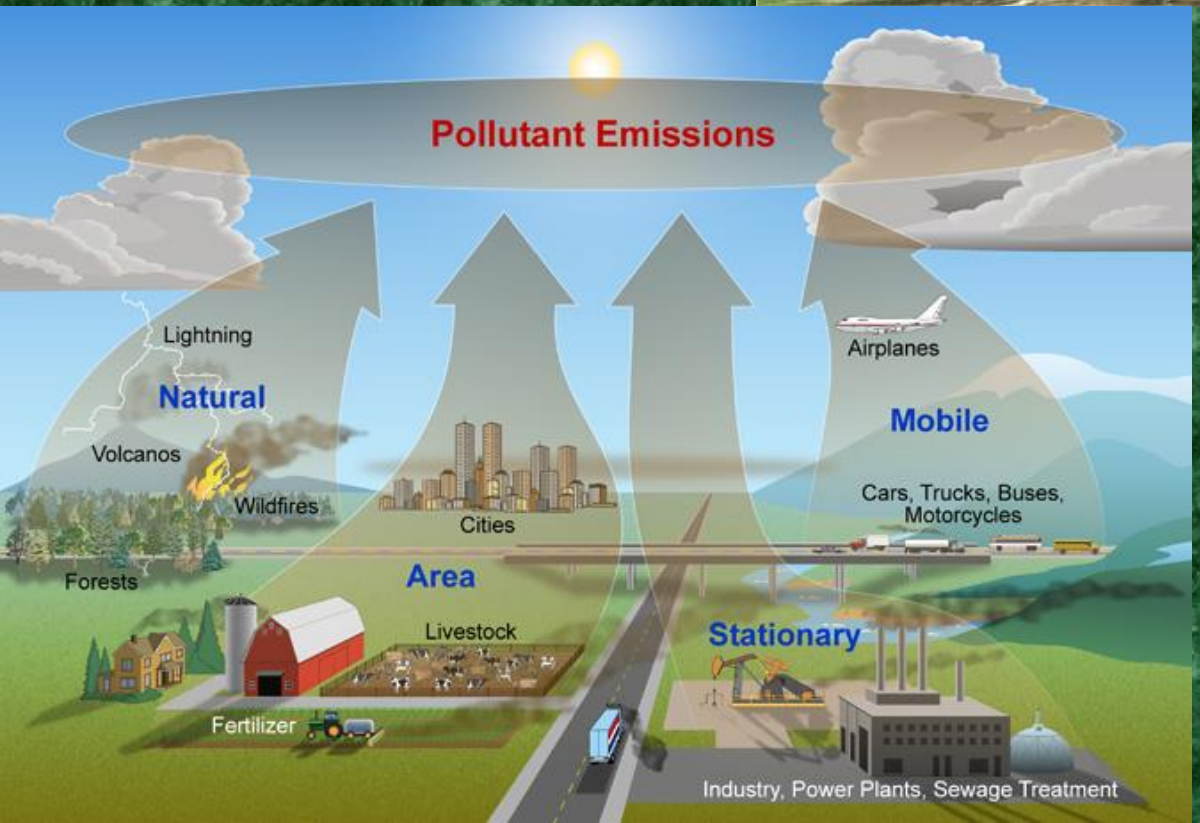
In a 1" rainfall
Potential Runoff:
5,422 gallons

- **Pollution of waterways with N, P, sediment and other pollutants**



Effects of Development on Air





- Air pollution and heat islands in cities

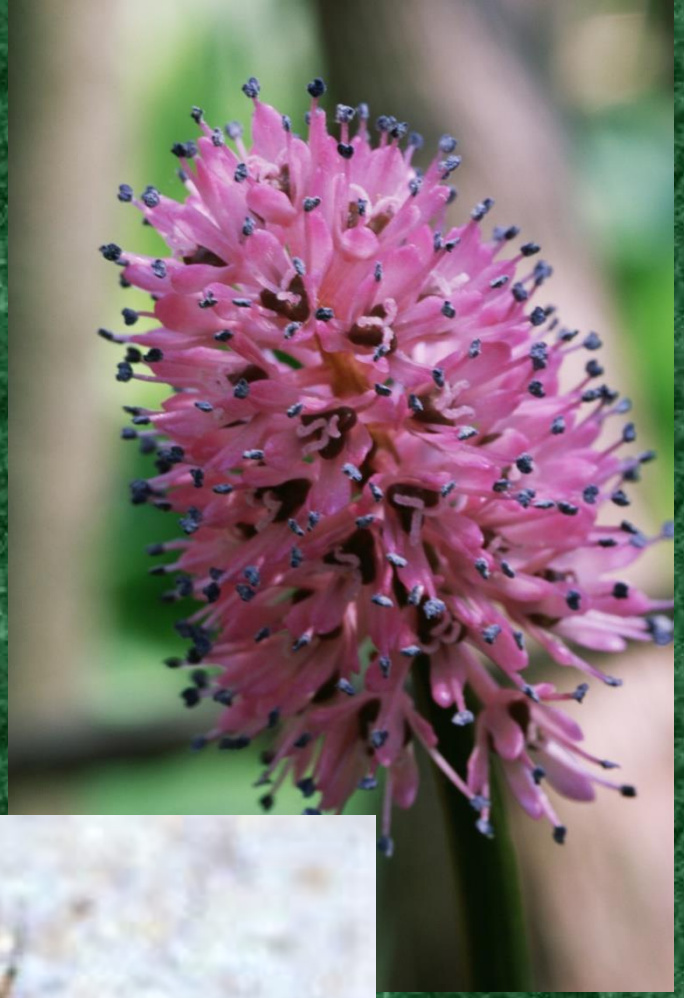
Effects of Development on Plants and Animals

- Introduction of invasive species

- **Decreased diversity of species**

Smooth coneflower

Swamp pink



Eastern tiger beetle

Some Virginia Endangered Species

Roanoke logperch
Percina rex

Northeastern beach
tiger beetle
Cicindela dorsalis dorsalis

Endangered Mussels
Clinch River

Virginia spiraea
Spiraea virginiana

Virginia big-eared bat
Corynorhinus towsendii virginianus

Something Else To Think About: Light Pollution

Natural Darkness Is a Component of Healthy Habitat

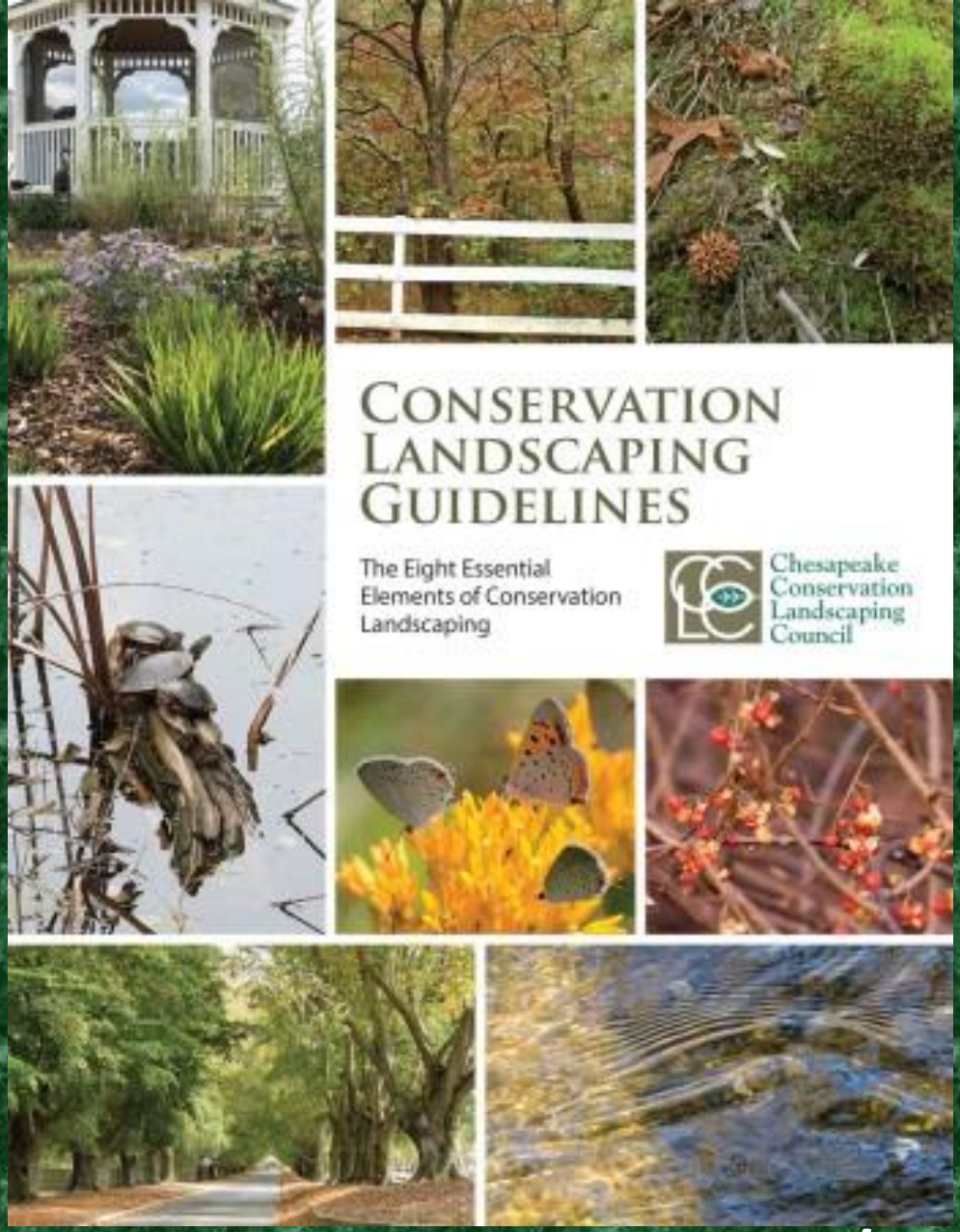
How to Turn Things Around and Help the Built Environment Function Like the Natural?

- Concept of Conservation Landscaping
- Developed by The Chesapeake Conservation Landscaping Council (CCLC)
- Is not letting everything go and nature take its course
- Is an active management plan to restore a functioning ecosystem

Eight Principles of Conservation Landscaping

Developed by the Chesapeake Conservation Landscaping Council

- "The Chesapeake Conservation Landscaping Council is a coalition of individuals and organizations dedicated to researching, promoting and educating professionals and the public about conservation landscaping to protect the Chesapeake Bay.
- The long term goal of the Chesapeake Conservation Landscaping Council is to advance conservation landscaping practices that have significant ecological benefits for communities throughout the Chesapeake Bay."



http://www.chesapeakelandscape.org/wp-content/uploads/2014/04/8_elements_2013.pdf

1. Practice what benefits the environment, native plants, animals, as well as and human well being

Examples include:

- Reduce lawn
- Plan for diversity of species by creating graduated edge habitats
- Use native plants
- Create water features to serve as sources of water for wildlife

Fescue grass is not a Virginia native species

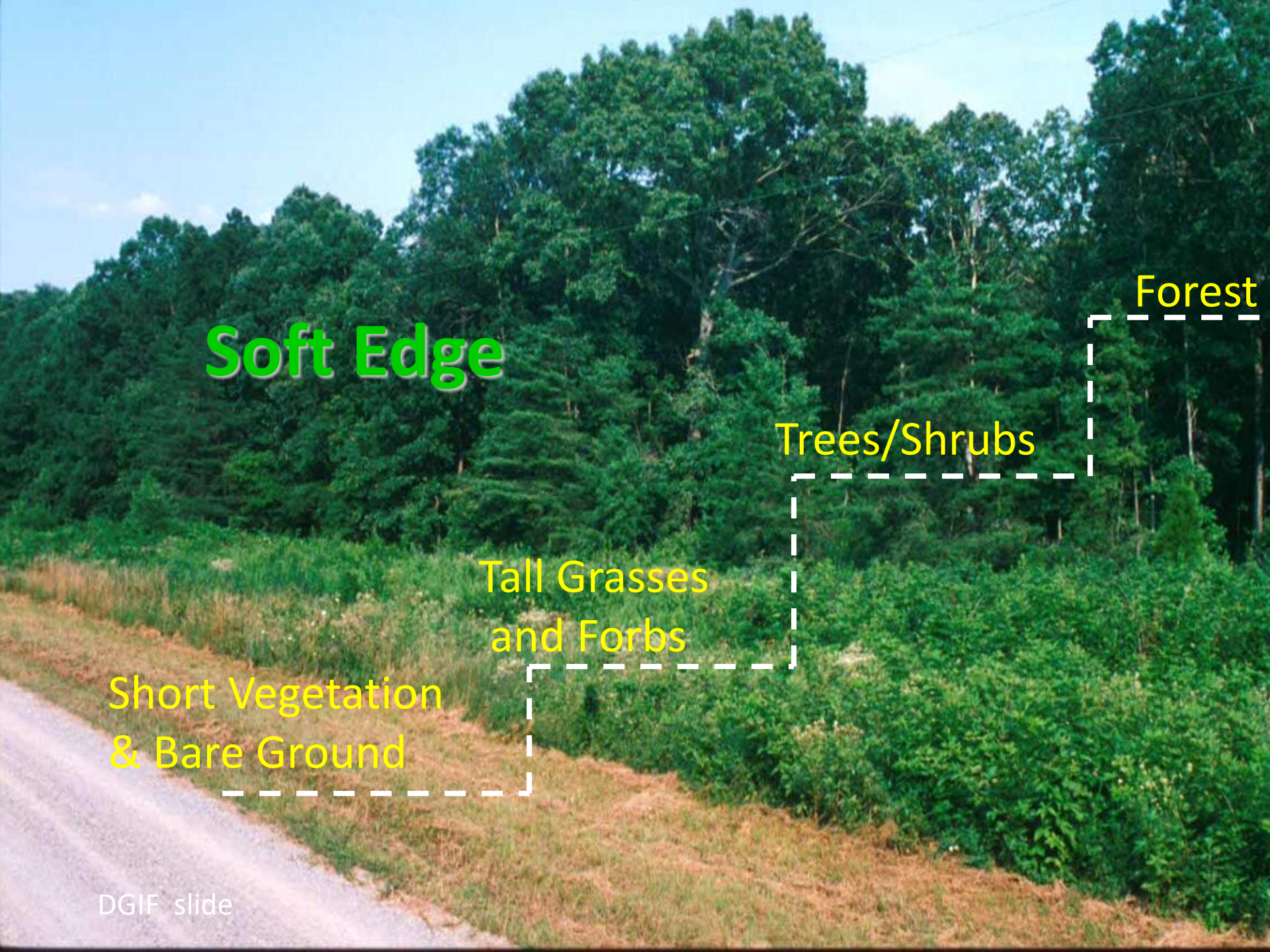
- Does not support wildlife
- Monoculture = no habitat diversity
- Mowing = pollution & energy use
- Requires fertilizer, water, more maintenance

This

Not this

Graduated edge habitats = vertical layer of small trees and shrubs between canopy trees and herbaceous plants

- Creates cover for wildlife to rest and breed
- Native plants = food source for native birds, insects & other wildlife


Soft Edge
Forest
Trees/Shrubs
Tall Grasses
and Forbs
Short Vegetation
& Bare Ground
DGIF slide

Water - A Necessary Element in the Landscape

2. Use native plants appropriate for the conditions

- Research plants native to your area/county
- Use the native species rather than cultivated varieties (cultivars)
  - Greater genetic diversity
  - More value to wildlife that uses them
- Select right plants for conditions where they will be planted (light, moisture, soil type, pH)
- Shop at local nurseries and request native plants

Use Digital Atlas of the Virginia Flora to Find Plants

- www.vaplantatlas.org/
- Search by county
- Generate county lists

Cultivar Solar Chocolate Gold Sunflower

- Cultivated varieties (cultivars) of a plant genetically identical
- Produced for nursery trade by cuttings or tissue culture
- Bred for human aesthetics not value to wildlife

- "Pollen-free habit and uniform plant type = excellent flowering life"

Request native plants from local nurseries

- **GARDEN GATE LANDSCAPE & DESIGN, LLC**

  Beth Farmer, Owner
  Specializing in Native Plants
  Native Plant Nursery
  (www.gardengategardener.com)

- **REEDY CREEK ENVIRONMENTAL**

"Restoring watersheds one native plant at a time"

Bill Shanabruch

https://reedycreekenvironmental.wordpress.com/contact/

- **Lists of regional nurseries selling native plants available on Virginia Native Plant Society website**

3. Remove Invasive Plants and Avoid Planting Those on Invasive Plant Lists

- Scout property for invasives and remove before they become established
- Research plants before buying to make sure are not on invasive plant lists
- Choose native over exotic plants when possible
- For bad infestations herbicides may be necessary for control

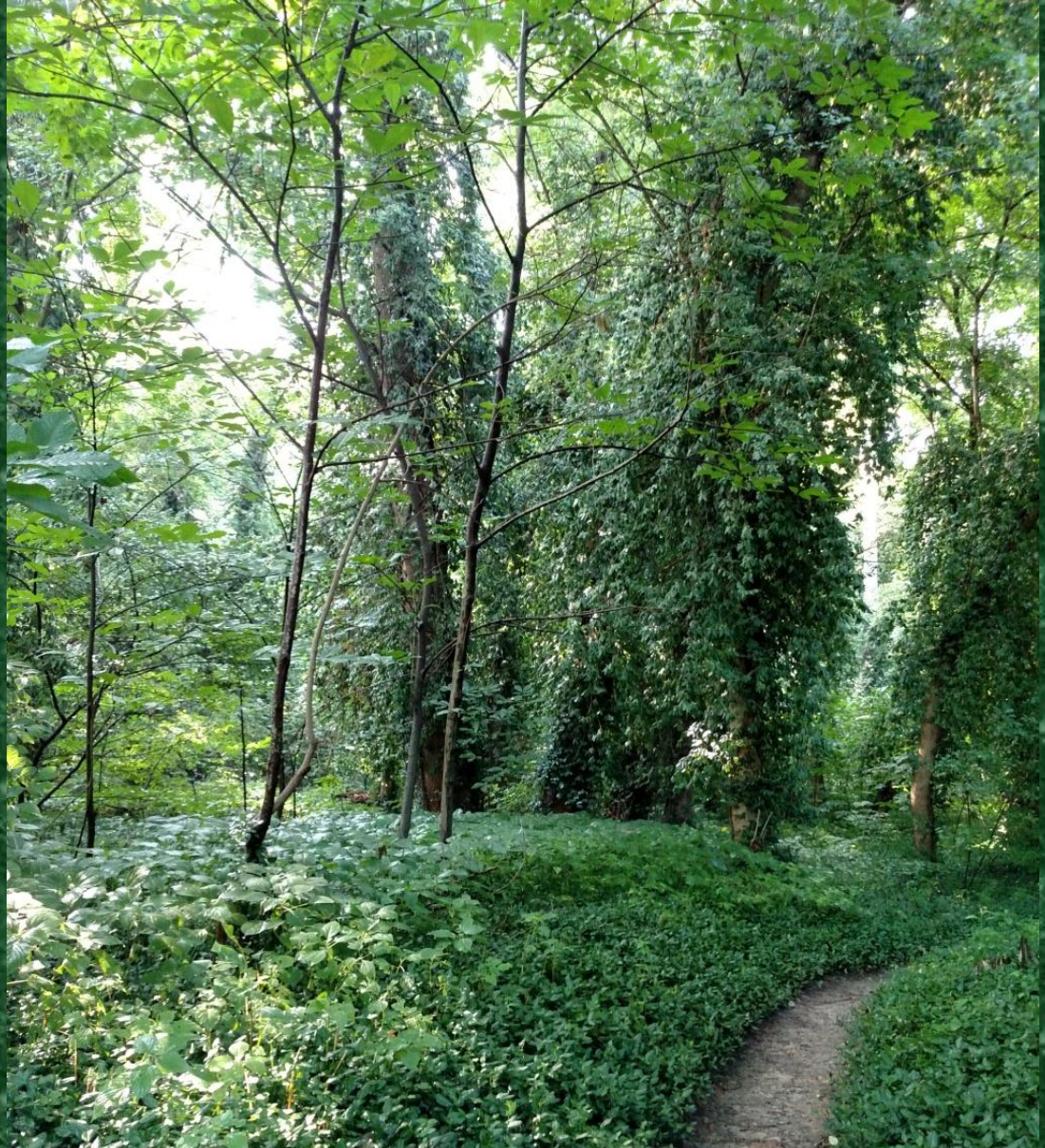
Common Garden Plants on VA Invasive Species List

Burning bush

Yellow flag iris

English ivy

Periwinkle



Wintercreeper (*Euonymus fortuneii)*
in James River Park

4. Provide habitat for wildlife

- Use native plants that provide food for insects and other animals
- Create edge habitats with shrubs and small trees for nesting and reproduction
- Build brush piles for cover
- Leave fallen logs to decay in place
- Provide a water source
- Avoid insecticides and other pesticides

Brush piles provide cover for insects, birds & small mammals

Step 1 – log cabin design

Step 2 – cover with sticks and leaves

Snags and Fallen Trees Left in Place

Water for birds and small animals

5. Contribute to Air Quality

- Reduce use of gas powered mowers and blowers
- Decrease lawn area
- Use trees to shade and conserve energy
- Use native plants to reduce need for chemical fertilizers
- Avoid chemical sprays

Reduction of lawn = reduction in air pollutants

Less air pollution

Manual and hand tools

Shade trees conserve energy in summer

Oaks feed insects &
other wildlife

Air pollution from fertilizers and pesticides

Volatile herbicide in warm weather

6. Conserve Water and Avoid Polluting Water

- Control storm water runoff through rain gardens, rain barrels, etc.
- Create a riparian buffer of trees and shrubs along streams and lake shores
- Mulch to improve infiltration
- Use soaker hoses or drip irrigation rather than overhead sprinklers
- Reduce impervious surfaces (hard surfaces that water can’t penetrate

Herbicide - can contaminate groundwater

Rain gardens

Soaker hoses and drip irrigation

Instead of overhead sprinklers

7. Conserve and improve soil

- Prevent compaction during construction
- Mulch to protect soil
- Prevent erosion by planting trees and shrubs
- Improve poor or compacted soils with organic matter
- Avoid tilling unless soil very compacted
- Use native plants suited to soil type and texture
- Limit fertilizing, especially with manufactured fertilizers

Improve soil with compost & recycled organic material on site

Mulch reduces compaction around trees in mowed areas

8. Manage landscape to conserve energy, reduce waste, and minimize fertilizer & pesticide use

- Select right plant for right place
- Recycle grass and yard waste on property by composting and allowing wood to decompose in place
- Water efficiently
- Manage pests through integrated pest management (IPM)
- Remove invasive plants

Don’t Light the Night!

- Light Pollution disrupts the physiology and behavior of mammals, birds, fishes, amphibians, reptiles, and insects.

- Artificial Light impacts navigation, foraging, predation, mating, and migration.

HIGHER MORTALITY + LOWER REPRODUCTION = POPULATION DECLINES

Air, water, soil, and other physical resources on this earth are part of a finite system. Its health is in our hands. Our decisions and practices impact all species, not just our own.

Virginia Cooperative Extension

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