

Field Trip Notes - March 27, 201 -- Hanover, Co, VA Private Property

**Habitat is Northern Temperate Forest,
Upper Coastal Plain Mesic Hardwoods,
Appalachian (Mid-Atlantic) Forest, mature,
not cut or cultivated for over 100 years**

1 - **How woody plants grow** (see stumps, cut logs, downed trees as well as standing trees)

- **cambium layer** --> increase girth, increase in wood
- **apical meristems**: actively growing tissue at tips of roots and shoots
- shoots/twigs (vegetative buds) --> incr. height;
- roots --> incr. root system, root hairs, mycorrhizae
- **seasonal growth**: tree rings, bud scale scars
- **effect of crowding, competition for light** (see young trees, self-pruning)

2 - **How forest grows** (structure)

- **succession** from cultivation to mature forest
- **layers**: canopy/overstory, understory, shrub, herb (incl seedlings)
- **shade tolerance vs. intolerance**: hardwoods vs. conifers
- **ecotone** (edge) effect
- **species composition here**: hickories, oaks, tulip poplar, beech, elm, persimmon; dogwood, American holly, pawpaw, muscle-wood, hop hornbeam, maple-leaf viburnum, blueberry, sweet pepper-bush, strawberrybush, honeysuckle, evergreen ginger, putty-root orchid, spring beauty,

3. Phenology

- **sequence of bloom, leaf-out** (significance to birds, insects, wildflowers)
- **influences which produce change** (seasonal, annual, 100-year)

The **USA National Phenology Network** (USA-NPN) monitors the influence of climate on the phenology of plants, animals, and landscapes. We do this by encouraging people to observe phenological events like

leaf out, flowering, migrations, and egg laying, and by providing a place for people to enter, store, and share their observations. We also work with researchers to develop tools and techniques to use these observations to support a wide range of decisions made routinely by citizens, managers, scientists and others, including decisions related to allergies, wildfires, water, and conservation. See our [vision and mission statement](#) for more information.

The USA-NPN is comprised of many [partners](#) including federal, state and local agencies, universities, colleges and schools, non-governmental organizations, citizen volunteers, and many others. Our participants range from individual observers making observations in their backyards to professional scientists monitoring long-term plots. Our network is described in further detail on the [Network Structure page](#). We invite you to [join us](#). <http://www.usanpn.org/?q=national-phenology-network>

4. Wildlife in this forest (evidence?)

- **birds**: Carolina chickadee, tufted titmouse, white-breasted nuthatch, downy woodpecker, red-bellied woodpecker, pileated woodpecker, northern cardinal, robin, junco, white-throated sparrow, red-shouldered hawk, great horned owl, barred owl, turkey vulture, black vulture
- **mammals**: white-tailed deer, red fox, raccoon, skunk, opossum, gray squirrel, vole
- **insects**: ants, beetles, grubs
- **amphibians**: box turtle, gray tree frog, fence swift, blue-tailed skink, American toad
- **reptiles**: black rat snake, copperhead, worm snake, brown snake

Plant species to look for... (native to VA unless otherwise noted)

Around the house

Oaks (*Quercus* spp.) stumps - tree rings, deterioration

Rhododendron (*Rhododendron maximum*) - evergreen, leaves rolled for protection

Kalmia latifolia (*Kalmia latifolia*) - coastal plain-mtn. disjunct distribution

Mosses (at least 6 genera here)

Flowering Dogwood (*Cornus florida*) - distinctive checkered bark, some signs of disease

Sweet Bay (*Magnolia virginiana*) - semi-evergreen, mult. trunk d/t breakage here

Redbud (*Cercis canadensis*)

Oak-leaf hydrangea (*Hydrangea quercifolia*) - non-native (introd. from South), note basal shoots

Red Buckeye (*Aesculus rubra*) - SE species, possibly historically in SE Va.

Boxwood (*Buxus sempervirens*) - non-native (from Europe), winter shelter for birds

Pawpaw (*Asimina triloba*) - food for zebra butterfly caterpillar, "praying hands" bud shape

Japanese cherry (*Prunus* sp.) - early bloom,

Hackberry (*Celtis* sp.) - distinctive bark, need lvs to ident. species

Smoke-tree (*Cotinus obovatus*) - native to SE U.S. but not to VA

Mimosa (*Albizzia julibrissin*) - non-native (from Asia & Africa), fruit

Christmas fern (*Polystichum acrostichoides*) -

Devil's walking stick or Prickly-ash (*Aralia spinosa*) - thorns, attracts butterflies

Raspberry (*Rubus* sp.) - browsed by rabbits & deer

Heavenly bamboo or Nandina (*Nandina domestica*) - non-native (from eastern Asia)

Rose-of-Sharon (*Hibiscus syriacus*) - non-native, introd. from Asia, attracts hummingbirds; in Korea, the Rose of Sharon is the historical symbol of the present and historic [Yi Dynasty](#) Korean royal family, and figures throughout domestic and royal architectural elements, particularly in roof tiles.; **Wisteria** (*Wisteria sinensis*) - non-native (It was introduced from China to [Europe](#) and [North America](#) in 1816 and has secured a place as one

of the most popular flowering vines for home gardens due to its flowering habit. It has however become an [invasive species](#) in some areas of the eastern [United States](#) where the climate closely matches that of China.) Species native to SE Va is *W. frutescens*.

Front yard, along driveway headed north

White oak (*Quercus alba*) - wolf tree growth pattern

Tulip poplar (*Liriodendron tulipifera*) - straight trunk, gray bark, crown shape

Redcedar (*Juniperus virginiana*) - deer browse evident

Flowering dogwood (*Cornus florida*) -

American beech (*Fagus grandifolia*) - bark, buds, branching, reproduction

White pine (*Pinus strobus*) - 5 needles per fascicle, limb growth pattern, age by whorls

Persimmon (*Diospyros virginiana*) - distinctive bark, fruit

Hickory (*Carya* spp.) - buds, bark

Ebony spleenwort (*Asplenium platyneuron*) - fern, often remains green here

Crape myrtle (*Lagerstroemia indica*) non-native (introduced from China & Korea circa 1790 to Charleston, SC by the French [botanist Andre Michaux.](#))

American holly (*Ilex opaca*) - evergreen, fruit cleaned off by robins

Trumpet vine (*Campsis radicans*) - seedpods, "cow-itch"

Greenbriar (*Smilax rotundifolia*) - thorns, tendrils,

Blackberry or Multiflora rose (*Rosa multiflora*) - invasive but fragrant, winter shelter for birds

Woods to east of driveway, north on power line, circling back south toward house

Red oaks (*Q. rubra*), **tulip poplar, hickory, beech overstory; holly, beech understory**

Redcedar (*Juniperus virginiana*) - edges

Loblolly pine (*Pinus taeda*) - 3-needles, compare to white pine, poor condition due to shade

Japanese honeysuckle (non-native, invasive) at edge of hardwoods

Huckleberry (*Vaccinium* spp.) -

Running cedar (*Lycopodium obscurum*) - clone, roughly circular

Sweet gum (*Liquidambar styraciflua*) - corky growth on 2-3-year-old twigs

Sassafras (*Sassafras albidum*)