



Summer is well underway – lush green summer growth fills the forests and woodlands, with sunny open areas producing summer flowers and lots of green plant material. Some plants are now producing fruits. No pop quizzes coming up on species identifications, the point of my tags and naming them is to emphasize the diversity of the natives, and sometimes, the incursions of invasive plants. There are plants we see in most of the sites, and others that are specialized to different habitats. Getting out and seeing the variety is fun! I've put white flags near and tied orange flags to particular plants (or sometimes near them) with the plant names on them. Because the flags often mark time-sensitive points such as flowers I'll leave the flags out for about 2 weeks, then remove them from any given trail. Please leave the flags there, I really will pick them up (and reuse them). The trails and plants will still be there after the flags are removed (well, some of the invasives will get clipped). This is a long walk (about 2 miles if you do it all), the flagging gets sparse and are often repeats.

General observations:

Please do not walk in mud or wet areas that can be avoided, that creates a lot of disturbance.

Mosquitoes: This area on the day I put out the flags had A LOT of mosquitoes (not as bad as they can be, but really present.) They are out -- be ready to swat, or spray your clothes to deter them.

Ticks: just be careful to check yourself after a walk. Spraying insecticide on your clothes can deter them, but check anyway.

Poison Ivy: The oils are present year around, don't grab the branches, roots or stems. Wash with a good soap after exposure. Some areas of the trail have poison ivy along the sides, but with care it can be avoided. Make sure you can recognize it.

Blueberries. Feel free to nibble, but be absolutely sure you are picking blueberries (not, for example, glossy buckthorn, present near the astonishingly abundant blueberries along this trail). There are lots of blueberries in all stages of ripeness (fewer than when I started, but I left a few.)

Random other flags: the orange or occasionally yellow flagging that I tie to plants have writing on them and are right along the trail associated with the white flags on wires. There are other flags around of a variety of colors and ages. Try to ignore them! Other purposes and projects.

The trail for the nature walk through the Nissitissit WMA (Wildlife Management Area) is mostly on an old railbed (no tracks remain), a fairly straight line a little higher than the surroundings. If you go past the end of the walk, you'll end up in New Hampshire on Beaver Brook's Potanipo Trail that starts off of W. Hollis Rd. in Brookline, NH just across the border and over the Nissitissit River (in Pepperell, the road is Brookline St.). All or part makes a nice hike now and a good ski or snow-shoe route in the winter.

PLEASE NOTE: the map at the back of these notes show the straight rail bed and a couple of loops at the north end that go off to the west. I am restricting the flagging and notes to the old railbed. If you decide to explore the loop trails, be aware that there are 3 "bridges or fords" (map legend) – stream crossings. These streams are flowing, there are no bridges. If you don't want wet feet or are concerned about agility or balance, DO NOT USE THIS TRAIL. Slippery, rotting logs and sticks that are in the stream channel might be a lure to cross the streams, but they are tricky to use - I got wet feet while trying to be careful at each crossing.

Nissitissit WMA from North Street, Pepperell

flagging July 14 – August 1 (ish)

map at end of the description

Directions: Park at the parking area on the map, Division of Fisheries & Wildlife property, on the west side of North St., 0.4 miles north of Prescott St. It is just south of Willson's Auto recycling (if you get there you've gone too far). There is parking for about 6 vehicles off the road in the DFW parking area. Look for a 6" yellow diamond sign on a tree along the road, it identifies the DFW driveway.

The parking area is not terribly obvious from the road, it is just a dirt driveway. There is a photo of the access at the end of this write-up. Look for a small (about 6" across) yellow diamond sign – DFW property marker.

The GPS coordinates for the parking area are 42.6977989 -071.597447

From Pepperell Town Hall, go north on Park St. 1.2 miles to Prescott St on the right. Take Prescott St. for 0.3 mi. to Brookline St. Cross Brookline, go 0.7 miles to North St. just past the bridge over the Nissitissit River. Turn left onto North St. and go 0.4 miles to the parking area, on the left. Or coming from Hollis St. take Prescott St. SW for 0.3 miles to North St., turn right and go 0.4 miles north.

The map at the end is clipped and combined from 2 maps (3 and 4) posted on the Pepperell Conservation Commission website: <https://town.pepperell.ma.us/376/Trail-and-Recreation-Maps>

The walk as described here is about 2 miles, the longest one of this series. You can, of course, turn around at any time! The flagging of plants gets sparser and sparser the further you go, since most of the plants are repeats of those already named. There are a few new ones, and an interesting walk. And blueberries, not just along the wetlands where they are very abundant.

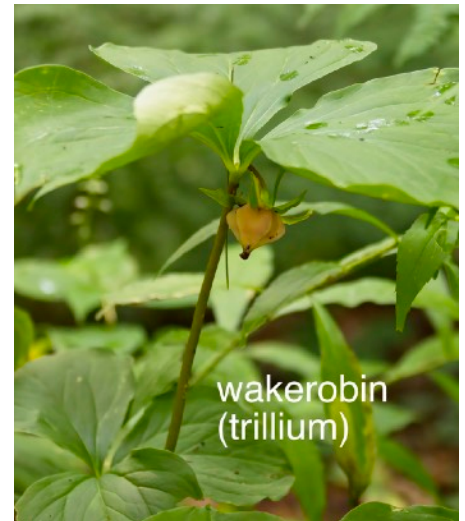
From the parking area, walk past the kiosk and around the gate.

The largest trees in the general area are old white pines that are slowly being replaced by oaks, maples, ashes, and other deciduous trees. Along the main trail are plants of wet forests and disturbed uplands, native and non-native species that specialize in colonizing areas after soil disturbance. Along the trails there is more light than in the rest of the forest, so we see denser shrub and sapling growth, and there are more herbaceous plants than in areas of more shade from denser trees.

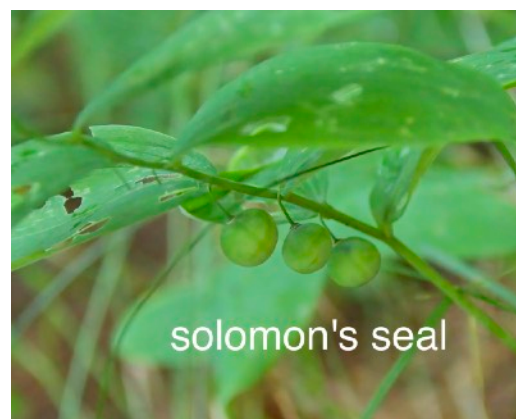


1. At the Kiosk. Poison ivy. It is abundant along the trails, be sure you know it.
2. These wet woods are full of small and medium sized elm trees. Feel the rough surface of the leaves.

3. Left side of the trail, more Poison Ivy, but a climbing vine with hairy roots this time, going up trees.

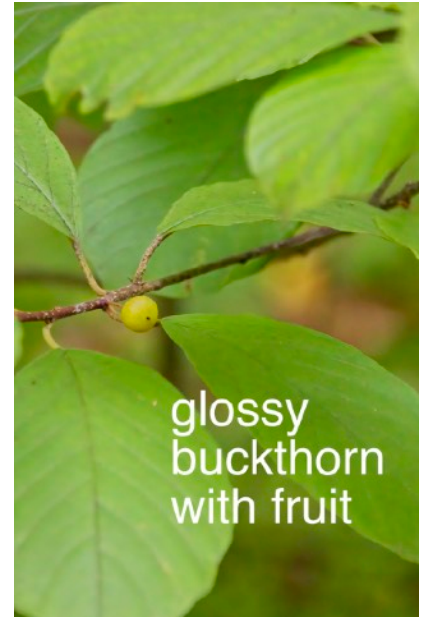
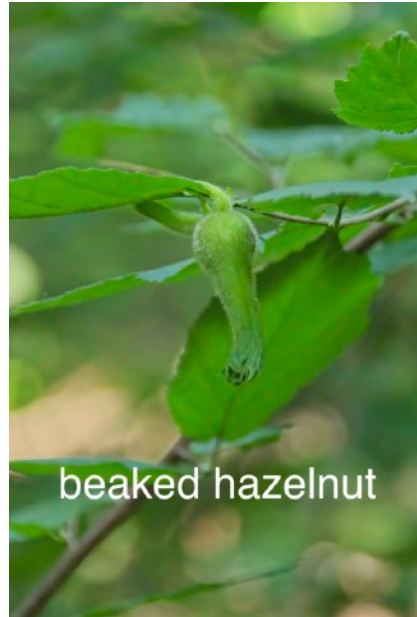


4. Stay looking at the left for a little while. Enchanter's nightshade with a stalk of white flowers above the leaves. There was a burst of flowering in the spring, but fewer types of plant flower now as summer progresses.
5. An area with several spring flowers that now have their fruits. Wakerobin (*Trillium*) probably nodding wakerobin since the fruit is under the leaf – lift up the leaves and check it out.
6. False Solomon's seal, fruits in a cluster at the end of the plant.



7. Solomon's seal, fruits under the main stem, growing from the leaf attachments.
8. American hazelnut, in fruit. The squirrels will probably win any competition for the nuts inside – the nuts are good. These plants are close relatives of cultivated hazelnuts that we eat. There are 2 species of native hazelnuts along the trail. I've flagged several of each, mostly because I find it interesting that they grow in what looks like the same habitat to me. In ecological theory, closely related species ought to have differences that keep them from competing with each other for

resources such as space, light, nutrients, and water. I keep looking for something obvious, haven't noticed anything yet.

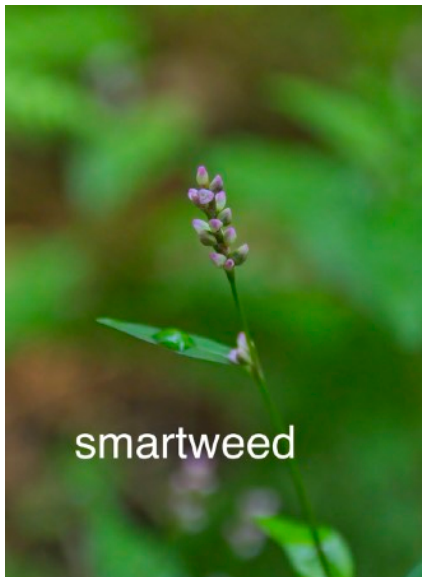


9. Right side again. Beaked hazelnut, with fruit. A woody shrub that can persist under forest trees after getting established in sunnier edges. Like the American hazel, the fruits seldom last to ripeness since squirrels and others compete for the tasty nuts. I didn't flag an invasive European buckthorn that is surrounded by the hazelnut.
10. Glossy buckthorns with fruits ripening along the stems. An invasive shrub that does well in wet and dry habitats, and manages well in shady forests. Birds eat the fruits and spread the seeds which because of the cathartic properties of the fruit pass quickly through the birds and land able to grow quickly. The stems resprout quickly if cut.
11. Blackberries, with fruits (green on July 14). Prickly plants with variably tasty fruits, some are very good, others bitter. Blackberries tend to grow in sunny places, often in dense masses.
12. Celandine, yellow flowers, plants with sticky yellow sap. Non-native.
13. Asian (or Oriental) bittersweet, a non-native, invasive vine that grows over everything if given the chance.
14. Sugar maple, will be a canopy tree in a few decades. They grow slowly in the forest shade, but do keep growing.
15. Smartweed. There are many species of smartweed, all with pink closed looking flowers. Here it is growing in the sunniest, least competitive spot. The ferns are probably hay-scented



ferns (that will smell more like hay as they dry in the fall)

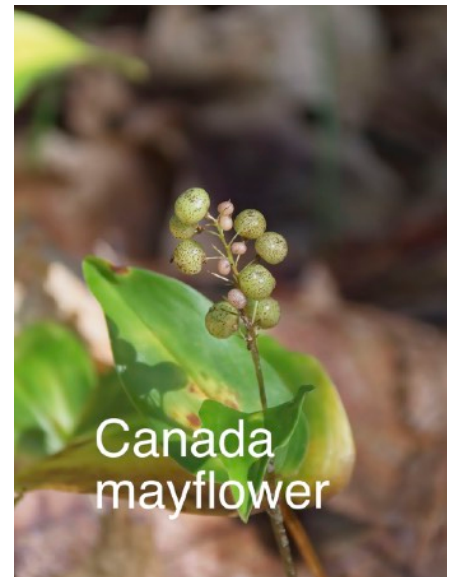
16. Wintergreen (teaberry) has blueberry- like flowers, they're in the same family. It is growing here near chestnuts, a dead pitch pine, partridgeberry, pipsissewa, and wild sarsaparilla.



smartweed



wintergreen



Canada
mayflower

17. On the left is a red maple near a trail from the left (it goes to Prescott St.)

18. On the right, Starflowers, well into seed production.

19. Canada mayflower, also producing fruits.

Stay straight on the main (big) trail for a little way after the trail comes in from the left, then take a smaller trail to the right.



starflower

20. The open, sunny area has small trees and denser shrubs than the surroundings. Small trembling aspens and white pines are behind and surrounded by dewberry (a low growing viney blackberry).

21. Cinquefoils (no longer showing the yellow flowers of a few weeks ago), haircap moss, wild sarsaparilla, and non-native glossy buckthorn grow in the sunny patch.

Now take that smaller trail to the right. Go north along a narrower trail in the woods.

22. Bracken fern, an old friend we watched unfurl in the spring.

23. Many fruiting stalks of shinleaf (Pyrola), that flowered a week or two ago.

24. On the left, an American Chestnut continues to sprout around stems killed by the chestnut blight, a non-native fungus. Few sprouts survive to reproduce. [The American Chestnut Foundation has a

brief history of the blight and discussion of the American Chestnut species at acf.org]. There are multiple chestnuts along the trails here.



shinleaf (Pyrola)



partridgeberry

Stay right at the fork, it takes us to an old railbed (track long removed) where you go forwards (only option). Notice the railbed is mostly upland surrounded by lower, wetter forest.

25. Partridgeberry with last year's red fruits. Lowbush blueberries, small white pine under American hazelnuts, and oak and maple saplings.

26. Sheep laurel are other plants that often grow in oak forests. They would have produced purple flowers in June. They are closely related to mountain laurel, but are shorter shrubs, and the leaves are only sort of evergreen.

27. Large patches of wild oats (sessile-leaved bellwort). These flowered in the later spring. The fruits, when present, dangle below the stems where they were yellow flowers in May. Ferns and wild sarsaparilla grow with them, and they are all below some elms.



sheep laurel

28. Along the trail here are some very dense patches of Asian bittersweet, wrapping around trees, shrubs, and even themselves to grow upwards.

29. Cross a culvert under some old large hemlocks with elms all around this wet area.

30. A large ironwood (hornbeam) grows in this wet area with its distinctive fruits and the muscle-y bark. I didn't flag the poison ivy with fruits, but look for it to avoid. The flags get fewer ahead of us, but there are some and the trail goes on.

31. Here are patches of Canada mayflower with fruits. Behind them are some striped maples with their big leaves. Look at the green striped bark on the trunks. Lichen and moss grow on some of

the surrounding tree trunks. There are areas of sedge 'lawns' open grassy looking areas of bright green sedges.

32. Cow-wheat is a native annual plant that grows in openings in pitch pine forests and often in old gravel pits. If you can look closely at a flower, its shape will show why it used to be in the same family as snap-dragons. We also have early successional native plants (plants that grow best in the sun and disappear when forests become established.)



33. Witch hazel is a fall flowering tall shrub, often growing in moist forests. This area has some lovely wetlands on either side of the trail, including open water.

34. Multiflora rose, a non-native invasive plant, sprawls and climbs over many plants here.

35. Highbush blueberries, when ripe are yummy. The fruits may be dark blue or black (there is a lot of taxonomic debate about whether the fruit color indicates different species, as a non-detail oriented generalist, since the plants seem to interbreed and all taste good, I call them all highbush blueberry (*Vaccinium corymbosum*). Feel free to nibble the blueberries, (heeding my earlier comments to avoid the cathartic buckthorn fruits).



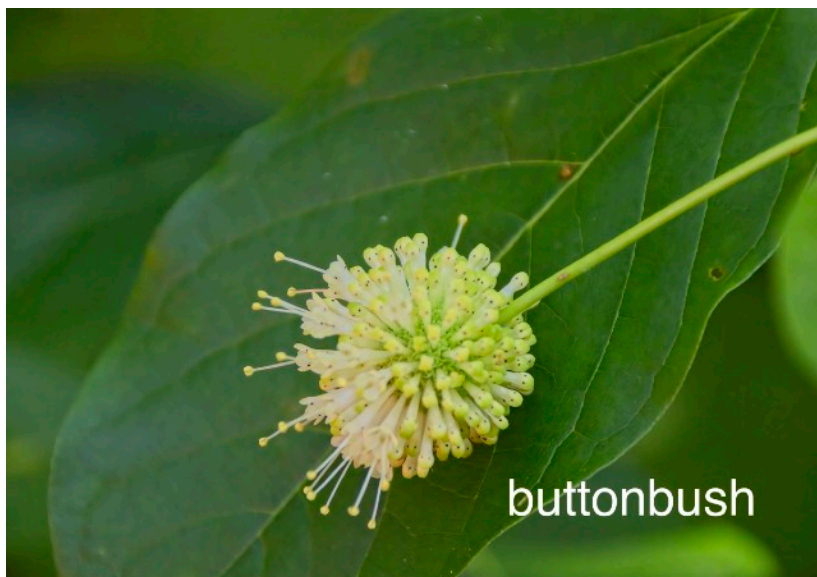
36. Hickories grow along here and throughout the forest. They have alternate, compound leaves, the ashes (also in this forest) have opposite compound leaves.

37. Winterberries (a deciduous holly tall shrub) fruits will ripen to red in the fall. Some of the plants are male and will not have berries.

38. Notice the wetlands to the right have cattails and the ones to the left have reed grass (an invasive). Diversity in the area (I have no idea why, but am glad to see it).
39. Common juniper, a low spreading shrub in our forests is scattered along this part of the railbed trail. They persist in closed forests but do much better where there is some sun.



40. Multiflora rose, highbush blueberries with black fruits and autumn olive (another non-native). It is not surprising to see species of disturbance along an abandoned railbed. The blueberries do very well along the edges of open water, often where water levels rise and fall throughout the year. The next section of the trail has even more blueberry plants.
41. Buttonbush often grows in standing water. Its globular flowers make identifying it relatively easy.
42. Pipsissewa plants in abundance with a very few pink flowers and the basal leaves of pink lady's slippers that flowered in early June, along the left side.
43. Maple leaved viburnum that we watched unfolding its leaves, then flowering, now has green fruits. They will ripen throughout the rest of the summer and fall. They are under red maples.
44. Red Maple is a tree of many habitats. It grows well and abundantly in wetlands (Red Maple Swamps are the most common forested wetland in Massachusetts.) It is also abundant in upland forests where it can live for over a century after starting in sunny spots.



End of the Nature Walk flagging at an Intersection. Choices. Straight goes to New Hampshire and Beaver Brook trails. You may want to go back the way you came, it's a nice walk. Or go exploring, remembering that there are stream crossing on the alternative trail - A wet-foot option I am not recommending, as discussed at the beginning of this writeup.

Anywhere along the wetlands listen for frogs, they were very noisy when I was there. And birds!

Some other things you may see on your walk...



choke cherry



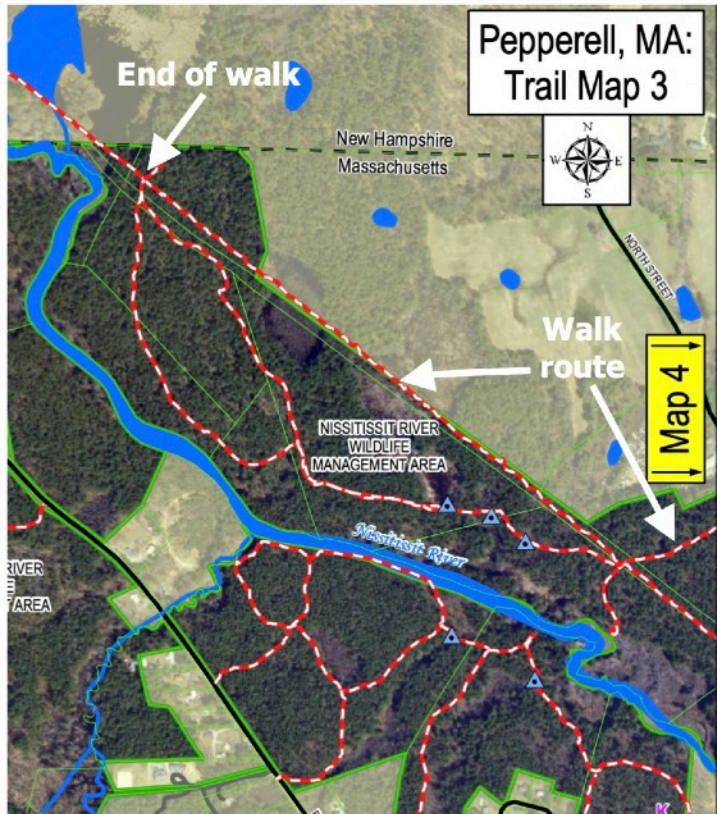
keep an eye out for frogs



ghost plant (also known as ghost pipe or Indian pipe)

Photos along North St.at the driveway to the DFW parking (P14 on the map) and into the parking area:





Maps 3 and 4 from Pepperell Conservation Commission website
<https://town.pepperell.ma.us/376/Trail-and-Recreation-Maps>

