

A Nature Walk: Washington–Harrison Loop

by Henry S. Horn

{**Note for 2017:** These notes are narrowly focused on identification of birds and trees, which we needed to learn for later exercises in the course. Otherwise the tour is typical of what can be seen today, including at least 28 species of trees, and 15 of birds despite being at the bird-nadir of the day. The photos are pathetic, but I intentionally used an outdated camera to show students that even that was sufficient for their required *Species Diversity Portfolios*.}

The following describes a walk that I took after class and lunch on Thu.28.Sep.07. It can serve several purposes.

- The route is one that you can take to observe many examples of the kind of natural history that are the stuff of EEB321. You may not see what I saw, but you can use my notes as a guide to what may be where. In particular, I have tried to note the appearance of obvious examples of new species of trees, particularly common or unusually interesting species, though I have left out several that I already listed for Potter Woods. Birds are noted as well, but with less attention to order and place of encounter, though I do note “hot spots.”
- I also include a few pictures, grouped as numbered Figures at the end (in case you want to print them specially on a color printer). They are examples of what can be done “shooting from the hip,” with a primitive camera (*Canon PowerShot A540*, 6 MP, 4x non-stabilized optical zoom, some photos with 1.75x tele-extender). With obvious exceptions, such pictures will suffice for your *Species Diversity Portfolio*.
- I provide a few tidbits of natural history. There is more information in books like Kricher’s *Field Guide to Eastern Forests* or Williams’ *The Nature Handbook*.
- These notes can be also taken as an examples of what I write in my own field journal. These particular notes originated as telegraphic phrases and lists on little index cards. My actual journal entries would be more detailed and polished than those telegrams, but far less polished than these notes.

Names of trees and bird species, and geographical waypoints are in Boldface. I have intentionally left some identifications unclear, but I offer hints for them.

{Alternative paths to the one that I took on this day are in fancy brackets.}

The Route (See *Map* below.)

Start walking down the Jadwin side of Washington Road, at the driveway to where the Armory used to be. Continue past the traffic light at Faculty Road and cross the bridges over Lake Carnegie and the D & R Canal.

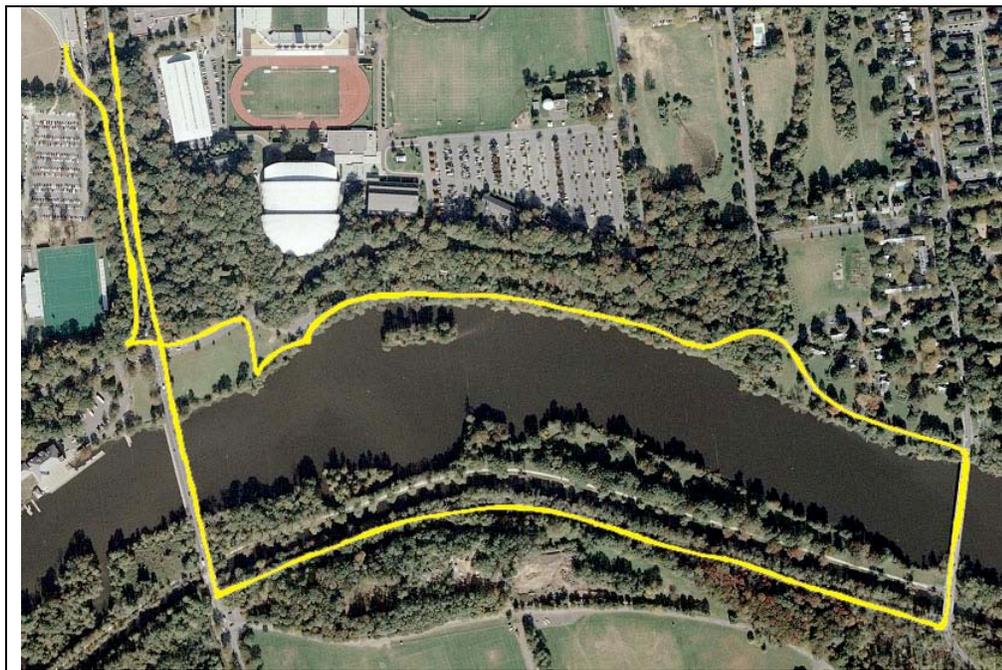
Turn left onto the canal towpath {The lake side of the canal is also a good walk, but it is more heavily traveled and more severely manicured}. Continue along the towpath to Harrison Street.

Turn left and cross the Harrison Street Bridge {or carefully cross Harrison to continue on the towpath to where the Millstone River joins Lake Carnegie; a footbridge crosses the canal for the short return to Harrison Street}.

As soon as you get to the Princeton side of the Harrison Street Bridge, look for a lightly worn path through the first shaded grassy place on the left. Carefully step over the guardrail and take this path down-slope. You are on University land, but please respect the privacy of folks with bordering yards. Continue on this track, ... and straight ahead as it joins a paved road (Lake Lane).

Where that road turns to the right into forest, there are two options on the left. Take the left-most trail, which follows the margin of Lake Carnegie {The more open right-hand trail is fine too, and offers an interesting alternative for your next walk}. Watch out for Poison Ivy on this trail, and follow it to the little parking lot off Faculty Road. Cross Faculty Road with great care, turn left on the sidewalk, and carefully cross Washington Road at the traffic light.

Just past a bluff at the corner is a path on the right, ... unkempt stone steps with a sign saying "Nature Trail" rugged terrain Please Proceed with CAUTION. Take that trail and that advice, ... and follow until it emerges on the driveway at the rear of the Icahn Lab.



Map. Nature Walk: Washington–Harrison Loop.

My time, at a moderate pace, with only a little dawdling, was one hour and fifteen minutes.

The Millstone River loop would add another half hour.

The Walk

Waypoints start each paragraph, which then describes possible encounters as you move along. But before you take this walk I highly recommend that you go to the Potter Woods edge with the previous handout, practice using your *Tree Finder*, and get to know some trees species there that will turn up unnoted on this walk.

Washington Road at driveway to former Armory site: **Hickories** (at least two of the three species: **Shagbark**, **Mockernut**, and **Pignut**; twigs and buds help a lot with identification based on leaves). **Magnolia** (We have three species; field guides list only **Sweetbay** for NJ, but the leaves are too big; perhaps leaves on saplings of **Cucumber** reach this size; or perhaps this is **Umbrella**; your *Tree Finder* distinguishes the species by leaf shape, size, and thickness). **Beech** (*Figure 1*). **Elm** (**American** and **Slippery** are hard to distinguish, but give it a try). **Box Elder** (= “ash-leaved maple”). **Norway Maple**. The cut for Washington Road exposes the Stockton Formation bedrock of the hill that Nassau Street crests (*Figure 2*). **Black Cherry** (*Figure 3*).

Faculty Road: **Sweetgums** are planted at the edge of the field near Washington Road; note the spiky fruits, which elementary schoolchildren can glue together to make model poodle-dogs. **Canada Geese** are grazing on the lawn (or were when I was there). A **Mockingbird** is chattering in the shrubs along the margin of the lake.

Washington Road Bridge: There are some very large **Turtles**, sunning on a log off the end of the bridge. Candidate species are **Red-bellied** (especially the giants about a foot long!), **Eastern Painted**, and the introduced **Red-eared Slider**; small individuals are hard to identify, even with binoculars. **Redbud** (I think; I did not double check). **Mulberry** (Check *Tree Finder* for **Red** versus **White**).

Canal Bridge: On the right at the beginning of the towpath is a Grapevine that is smothering (or more accurately, light-starving) shrubs, saplings, and much other vegetation. **Tuliptree** (unmistakable leaf). A big **Silver Maple** (*Figure 4*; very deeply lobed leaf with silvery sheen on underside) is the first of many representatives of this characteristic species of local floodplains; to the right and perhaps a bit behind you is a huge hulk of an old Silver Maple that is festooned with **Poison Ivy**, a reminder to watch your step, and especially to be wary when you are about to handle an unknown leaf. **Black Locust** is common along the

canal, as are **Ashes** (**White** and **Green** are both here and pretty hard to tell apart, especially from a distance; I tend to find White more in uplands and Green in wetter areas; bulk foliage of Green tends to look “finer” than that of White, but there is overlap). **River Birch** (*Figure 3*; reddish, curly peeling bark) is another common species, often leaning out over the canal or swamp water. I’ve run into a loose aggregation of foraging birds. A family (?) of **Chickadees** may be the driving species; there are at least two **Tufted Titmice**, and a pair of **Downy Woodpeckers**. A **Red-bellied Woodpecker** has moved through independently (*Figures 5 & 6*). A well-hidden **Carolina Wren** is singing episodically. The Wren’s two phrases are variants on: “JudyJudyJudyJudy” and “videovideovideo Watch it.” The tree with gigantic simple entire leaves (i.e., not compound and not lobed) is probably **Princess-tree** or **Royal Paulownia**. It is an alien species that is not in the *Tree Finder*, though it has escaped to invade “natural” communities. It is only briefly successful in large openings, dominating herbs and some shrubs, but succumbing quickly to competing trees with moderate tolerance of shade. Over in the canal (and often in the swamp waters) are **Mallard Ducks**.

Swamp appears on the right: Technically, a “swamp” is a habitat where trees are often (or always) growing (or dying) in standing water, ... as distinct from a “marsh” which has lots of emergent vegetation, but few or no trees. The classification of “swamp” can grade into “forest,” depending on the frequency, severity, and continuous duration of hydration. Such details and definitions are important to potential classification of the habitat as a “wetland,” ... which has implications for: ecology, hydrology, water resource, pollution (as sensitive and/or as ameliorative), and legal status for management, exploitation, protection, or conservation. Several **Mourning Doves** burst up in twos and threes from the pathway; their wings give a loud whistle with every flap during the high-acceleration, climbing phase of flight. I also hear **Blue Jays** and **Flickers** in the intermediate distance. This section of the trail is **Poison Ivy City**, especially for long branches reaching out from tree trunks. I scared up a **Great Blue Heron** from the swamp, and it flew away with a “squark...awrauwck!...ukuk” that must be what Pterodactyls sounded like. I hear a pair of **Cardinals** chipping at each other, but I can’t see them. **Big Red Maple**. About where Harrison Street comes into distant view is a section of the swamp with several huge standing dead **Sweetgums**. I recall telling you in lecture that wet soils have only a very thin layer in which roots can respire, and hence can grow well. So a slight change in the average level of the water table can leave those roots either high and dry or soaked and anoxic. Even well-established trees can be killed within a few years. These dead trees, and the insects that infest them, are resources for several species of

Woodpeckers, and provide perches with unobstructed views of productive waters for **Kingfishers**. Several species of **Herons** also stalk among them.

Harrison Street: {If you decide to continue down the towpath to where the Millstone River joins Lake Carnegie, you may have an opportunity to see several species of waterbirds, even as fall changes to winter. In addition to those already listed, these are likely: **Mute Swan** (at least one pair descended from escaped park birds), **Gulls (Ring-billed, Herring, and Great Black-backed)**, **Double-crested Cormorant**, and **American Merganser** (late fall to winter; male and female are very differently colored). A few of these species are not included in the *Stokes Beginner's Guide to Birds*, but after seeing that they are anomalous, you can probably identify them with other field guides in the Library or the Precept Room. While you are in the field, observe them for the same kinds of features as are used by Stokes & Stokes as identifying marks, and record those features in your *Journal*. If you are lucky, you may see one of a pair of **Bald Eagles** that nest regularly in the vicinity.}

Harrison Street Bridge: As you cross the bridge, look up and downstream at trees along the edge (sizes, shapes, colors, and “texture” of foliage), ... look for birds in or near the water, ... and look at the sky and try to relate what you see there to any recent weather predictions that you may have heard. On the Princeton side of the bridge is a tree that portrays its name, **Weeping Willow**. It is native to the Middle East, but thrives in wet Temperate plantings with low competition.

Path across guardrail, and Lake Lane: The conical conifers at the bottom of the slope are **Dawn Redwoods** (*Metasequoia*). The species was first described as a Mesozoic fossil, but was soon discovered growing wild in China. The Arnold Arboretum brought seeds to the U. S. in 1948, and the tree next to the Art Museum in the Prospect front yard grew from one of these seeds. **Black Walnut**. **Sugar Maple**. **London Planetree** (a congener of our native **American Sycamore**, though “American Planetree” would be a more appropriate name since “Sycamore” is pre-empted by the English for a species of Maple). As you approach the woods, notice the grove of conifers to the right. They are mostly **Dawn Redwoods** in a Mesozoic mini-forest (*Figure 7*).

Lake Lane meets the unlabelled spur of Broadmead Street: Take the left-most trail into the woods (*Figure 8*). {**Note for 2017: The left-most trail is no longer navigable.**} {The right-hand trail leads uphill above a sewer line, and slashes through a forest that has a Tropical feel to it in high summer.} The Canopy has many **Tuliptrees**, joined further on by many **Ashes**. Upslope are several

clearings, caused by the suffocating overburden of soil from construction of the maintenance road on which the upper trail lies. The conifers in these clearings are **White Pines**. Along the trail are several large, aptly named **Shagbark Hickories**, several of them supporting copious **Poison Ivy**. A small island just offshore provides a backwater in which **Geese** and **Mallard Ducks** often congregate. This is also a good place to look for **Hérons**. This trip I saw only **Great Blue** (*Figure 9*), which is regularly resident, but in the past I have seen **Green** and rarely, at the edge of the island, **Black–Crowned Night**, neither of which is listed in Stokes & Stokes. It is late in the season for frogs, but I seen both **Green Frog** and **Bullfrog** here. Protruding logs and branches are favorite resting places for **Turtles** (*Figure 10*) and **Cormorants** (*Figure 11*). It is very hard to photograph critters here because thickets of thorny Catbriar (a viney species of lily) and Multiflora Rose prevent close approach to the shore. In addition, vegetation screens the foreground, and the animals here are especially wary of movements along the trail. The little lakeside culvert just beyond the parking lot affords an open view of a favored perch for **Cormorants**. A little further along the lakeshore is a feeble peninsula with several small trees that were been cut down and partially logged up by one or more **Beavers** (*Figure 12*). There are no signs of very recent activity though. Be careful crossing the road since drivers speeding down the hill are not expecting you, and even if they see you, it is hard for them to stop.

Across Faculty Road from the entrance to the little lakeside parking lot: **Magnolia** (probably **Sweetbay**, but could be **Cucumber**; see the *Tree Finder*). **White Oak**.

Across Washington Road and turning onto the “Nature Trail”: **White Pines**. **White Oaks** (light bark broken into even, flat plates), and **Red Oaks** (darker bark, but with light and shiny unbroken longitudinal “ski trails”). There is a sickly **Eastern Hemlock** and beyond it, the standing ghosts of several other Hemlocks. These trees have been done in by infestations of the alien Woolly Adelgid Aphid. The aphid pierces small twigs and the bases of leaves, and sucks the nutrients and photosynthates from the tree, using them to whip up a waxy froth that helps to protect the aphid from its few enemies and from harsh physical conditions, including sprayed insecticides. As the aphid population increases, the tree gradually starves, sometimes within only a couple of years. Keep an eye out for a large tree with bark cracked into nearly regular polygonal plates. This is **Blackgum**. Just before the trail breaks out onto the Icahn Lab driveway, there is a huge **Red Oak** on the left that was doubly trunked, but had one trunk fall in a storm. The remaining snag was cut, and lies nearby in the litter. At the base of the trunk is a very impressive example of a Shelf Fungus. This is just the fruiting body

(or more accurately, the sporulating body) of the fungus. The bulk biomass of the fungus is an extensive mycelial network that is digesting the layers of the log from inner bark to outer wood.

Back on Campus: Two species of Crow are commonly found on the Princeton Campus. The **Common Crow** is a large, black bird whose call is traditionally rendered, “Caw! Caw! Caw!” On this walk I saw the somewhat smaller Fish Crow, and heard its lighter and more staccato, “Cak! Cak! Cak!”

Figures



Figure 1. Backlit Beech Leaves.



Figure 2. Beech Roots in Eroded Soil.



Figure 3. Black Cherry (left) and River Birch (right). Cherry bark splits and shrinks to cup outward. Birch bark peels in curly strips. Both trees host Poison Ivy.



Figure 4. Silver Maple Leaves.



Figure 5. Red-bellied Woodpecker (barely visible in center). This is typical of a photo that seemed hopeless when shot.



Figure 6. Red-bellied Woodpecker. This is the center of Figure 6, cropped and with major adjustments of lighting balance. It's still not very good, but it suffices for identification.



Figure 7. Mesozoic Mini-Forest of Dawn Redwoods.



Figure 8. Fork in the Road (cf. *The Muppet Movie*).



Figure 9. Great Blue Heron. This would be an artsy photo, sufficient for identification, ... IF the autofocus had sharpened the Heron, rather than the framing leaves.



Figure 10. Turtles. These are not quite big enough to be definitively identified as Red-bellied Turtles, and no individual is visibly colorful enough to assign it to one of the three species.



Figure 11. Cormorants in Typical Poses.



Figure 12. Beaver Logging Operation. This picture is cribbed from Apr.07, since my main batteries died and my spares had too low a charge on 28.Sep.

Supplement (another walk on Sun.30.Sep.07): I made a quick circuit of the alternative paths above. I walked the lake side of the towpath, taking the spurs and winding trails closest to the lake. Sights: island with **Great Blue Heron**, spare **Ash** on a minor point with bird droppings beneath and two **Cormorants** above, old arboretum (NOT a good place to learn native trees), **Carolina Wren**, **Downy Woodpecker**, **Kingfisher**, **Goldfinch**, and **Catbird**. I did the Millstone River loop, and saw an **Osprey** (also heard and seen later near Washington Road, ... a wimpy small-bird-like “Chee-urp!”). I took the upper trail from Lake Lane to Washington Road, and tentatively identified some huge-leaved plants as **Sycamore** and **Princess-tree**.