Guide to Andrea McKenna Harris Nature Trail



Dedication

Thank you for joining us today for the rededication of the Andrea McKenna Harris Nature Trail. This trail has had several iterations over the years. It first came into fruition at South School in Hingham, MA while Andrea was still alive. She created the trail there, not so named, in order to emphasize the importance of nature study to her two sons, their friends, all the students of the school, and the whole community. She had a firm understanding of the importance of natural places in the healthy growth of children.

After her passing, the trail then moved to New England Wildlife Center when we were located in the Navy Depot in Hingham. Shortly thereafter, we moved here to Weymouth where the trail now has a permanent home.

Twelve years ago there was no trail here. I wandered with a classroom of eighth graders through this woodland willy-nilly exploring the micro-habitats, flora and rocks of this 12 acre piece of property. Four students, you know who they are, took the lead going where their active imaginations grabbed them. Two students took the rear tying orange caution tape to trees along our pathway. And hence the Andrea McKenna Harris Nature Trail was re-born.

The trail is well worn, as the result of simply following the caution tape. I am sure Andrea's spirit led us through the woods that day. Unlike children, the trail took on an adult sensibility and organization. I hope you enjoy Andrea's Trail.

Greg Mertz

Cautions

We have lots of ticks along the trail, both deer and dog. Check yourself when you are done. There is only one solitary plant of poison ivy on the trail, and it is not likely you will find it. No worries there. Watch your step, this trail is not disability accessible.



Andrea's Trail in Summer



All photos are from Andrea's Trail

Station #1

Pioneer edge to woodland

We mow our lawn once a year. It is good environmental sense. More petroleum than the Exxon Valdez disaster is lost to the soil and to the atmosphere every year by Americans spilling gasoline trying to fuel their mowers. Besides, lawns are pretty boring. They fit human's need for symmetry, organization and neatness, but they do a lot of damage to local ecology and to the richness of nature outside your front door.

This ragged lawn is home, if not refuge, to a colony of praying mantids. Each year we find dozens on the stems of these many herbs. A few weeks ago, there was a bloom of dragonflies here eating the myriad of courting insects that rose off the stems and soils of Queen Anne's Lace, great mullein, melilot, chicory, yarrow, common St. John's-wort, common milkweed, and tansy.



Entrance to Andrea McKenna Harris Nature Trail







Chicory

Common Milkweed



As you approach the trail the vegetation height rises. Some plants thrive in bright sunlight, others prefer shadier areas. Here there are classic edge species like black locust, black walnut, and black cherry. Each of these tree species is a book of knowledge.

Black locust is a venerable hardy tree in both life and afterlife. Its beautiful flowers are edible if fried like fritters; it's leaves and stems are poisonous to fend off insect and vertebrate foragers. Its wood rots slowly, so slowly that you find downed logs centuries after a field has regrown into a stable woodland. Fence posts and dock fittings are often made from locust wood because it rarely ever needs to be replaced, even below swamp water.

Black Locust on right, sided by Black Cherry on left



Black Locust foliage and flowers



Black walnut teaches us about plant defenses. It grows fast, tall and strong to protect itself from other soil and sunlight competitors. It also exudes a chemical into the local soil that suppresses other plants from growing. The nuts are useful to us, more importantly to the chipmunks, squirrels, mice, and voles of the woodland.

Black cherry continues this lesson of biological manipulation. Black cherry is poisonous to all vertebrates who eat it. Tent caterpillars love it.

In the late summer female tent caterpillar moths fly in search of black cherry trees. Can you identify a black cherry tree? A little moth can! She finds the tree and lays her egg case on the upper thin branches.

After winter, in the spring, the eggs hatch, and because they are on the upper thin branches of the tree, it is a short crawl to the breaking, tender leaves emerging with the first warm weather. What has the tree done to defend itself? It breaks bud with a small drop of sweet nectar just before the tent caterpillar eggs hatch. This draws ants to the breaking buds to fuel up after a long foodless winter. Having their fill of a sweet drink the ants head down the stems towards home, only to discover hatching caterpillars. What goes good with a soda? A burger of course!

Black cherry influence does not end there. Cherries are not poisonous; they are in fact great things to eat. With a fertile seed inside, the cherries are eaten, pit and all. Eaters walk or fly around the countryside planting new trees. Is there no end to their gerrymandering?



Black Cherry foliage

As we enter the trail our elevation drops. This changes the soil makeup and moisture content. As a result, our tree and shrub species change to towering canopy trees like oak and red maple and to an understory of wild azalea, sweet pepper bush, and an occasional high bush blueberry. Pepper bush is dominant here. Its fragrant flower attracts all kinds of bees and bugs. Honey from a pepper bush is valued. The flowers also

have another interesting trait. If you take a handful of flowers in your hand, soak your hands and flowers in water, and scrub-a-dub-dub you will get suds and hands that are spot clean and smell good!

Although pepper bush dominates, you will see a stand of sassafras off the right side of the trail. Some of these trees grow to thirty or so feet. The roots are well known as an original source of root beer and sassafras tea. There are reports of a strong tea made from the roots being hallucinogenic.



Sassafras leaves



Sweet Pepper Bush almost in bloom



Sweet Pepper Bush

The overhead canopy of foliage is almost entirely red maple. This tree stabilizes the woodland and provides the needed shade for the understory. Red maples are readily tapped for maple syrup.

Biology, and especially ecology, follow principles, not facts. So here and there a black cherry can be seen deeper in the woodland, but they are quickly, in tree time, being outcompeted. The same is true of the black oaks, white oaks and red maples. The oaks prefer dry sandy soil; the red maples like their roots wet and packed densely with rich swampy soil. Nevertheless, here and there we will find an oak mixed into red maple territory and vice versa.



Along Andrea's Trail we will find five different types of oaks: black, white, red, chestnut and post. These are mostly along the higher topography.



Black Oak (pinned lobes)



White Oak (rounded edges)



Chestnut Oak leaves

Station #2

As you cross the bridge to the left is an acre sized vernal pond. This one was certified with the State of Massachusetts by the Cape Ann Vernal Pond Team, a sister organization to New England Wildlife Center located in Gloucester. To be certified, a vernal pond needs to have a particular population of plants and animals that do best in temporary woodland ponds. Here wood frogs, sphagnum moss and peepers thrive. This pond usually dries completely in August and September.



Sphagnum Moss



Tree House

Just to the left is a solar powered tree house that houses microscopes, binoculars, and water and soil measuring instruments. The treehouse acts as a center of activity when we teach middle school classrooms about the natural history of our woodlands.

The treehouse is dedicated to the memory of Bill Hays, Esq., an early donor, advisor and supporter of the Center's move to Weymouth in 2006. The treehouse was constructed by two inmates from the Norfolk County Sheriff's Office in 2016. The two, Jimmy and Richie, are graduates of the Center's Animal Care Training Program.

This treehouse, its origins, use by middle school students, and dedication are a symbol of the Center's concept of integrating all



facets of the community to the betterment and care of wildlife and habitats. This concept embraces all ethnic, gender, religious, and country of origin individuals. More importantly it welcomes individuals of any skill and knowledge set, and peoples of any value set. We are all learners, we are all educators. Students from Yale work shoulder to shoulder with students from jail. Disabled learners work side by side with surgeons. Animal rights ideologues work side by side with hunters and fisherman in the effort of caring for both wildlife and habitats. Here the flow of knowledge and skill runs in all directions. We are the only veterinary hospital in the world with an open mic folk and blues jam every Saturday night. Meanwhile, back on Andrea's Trail... As we rise in elevation the canopy, understory and ground cover change in character. The canopy is now mostly oaks, with an occasional American beech, and white pine tree mixed in.

The understory drops from the 15 foot tall and wet-soil loving pepper bush down to the two foot high blueberry and huckleberry. They dominate the close to ground foliage in these drier sandier soils. The ground cover here is sparse with occasional teaberry, pincushion moss and boulder lichen.



Huckleberry



Boulder Lichen



American Beech



Teaberry

Station #3

Turn left here to climb the hill. Our marker is on a single but tall white pine tree that is left over from when this area was a cleared field. White pine, like the black cherry and locust, are pioneering plants that like intense bright sunlight. White pine grow fast and tall and reach above the competing, shadowing and slower growing oaks. Some persist in the woodlands for a century or more, but slowly give out to the broader leafed deciduous trees.



White Pine



Station # 4

At the top of the hill there are rocks strewn about. Some seem in place, firmly attached to the earth; others seem dropped. In fact, that is about right. The topography of our land was formed by retreating glaciers about 8,000 years ago. Retreat in glacial terms is not so much a tumultuous pulling back of ice as it is a slow melting away as a result of warmer temperatures. The immediate features that we see are a result of fast and slow running water from the expiring glacier and from more recent weather and climate events. The general, broader topography is best understood in terms of plowing and dragging of rocks and soil in front of and beneath a mile thick layer of ice.

Back up the hill at quarrying spot

The rocks in front of us are well-rounded as the result of both narratives. Some from being dragged or being dragged over; others from tumbling sediment filled water bumping and banging into other rocks, boulders, pebbles and sand.

The collection of rocks at the top of this hill has a further more immediate history. Immediate connotes anything in the last three centuries.

It is probably best to start with the round mill stone lying slightly off the hill. Before electricity grains were commercially ground at stream run mills. Grain was fed into a sloped trough called a slipper that fed the whole grain between two large and heavy round stones. One stone stayed stationary, the bed; the other, the runner, moved circularly on top. The space between the two stones determined how fine the resulting flour would be. Here lies one of these two stones, cut from the larger vertical face of rock behind us.





Millstones

These mill stones, and probably many other stone building blocks, were free range quarried from fields and woodlands in Weymouth. On the granite face you can see small round holes in a straight vertical line drilled into the rock by hand. These were handmade fracture lines that would have spikes driven into them to crack the slab away from rick face.

The slab would be dragged down the hill and masoned to its correct size and configuration and then transported back to its place of use. A team of horses would drag a piece this size through the woodlands. The basic stone cutting took place here in the woods to lighten the lode.

Drill holes on rock face



We think this millstone was abandoned here because the circular cut was going to end in an irregular circumference. Just down the hill from the millstone there is a chunk of rock with sharp edges that had been cut away from the round edge. Notice how sharply angular the cuts are. They are nothing like the rounded, obtunded conformations of the boulders and cobbles of the glacial outwash that make up this hillside. By noticing these edges, you can discern where humans have had their influence on the landscape.

Station #5

At Station # 5 swing to the left. The right fork takes you onto Braintree conservation land and a longer walk that connects you to Weymouth Great Pond and Holbrook Town Forest.

The canopy is dominated by oaks through here. Red, black, white and chestnut predominate. The understory divides into two levels. Witch-hazel and grey birch comprise the upper. Huckleberry and bracken fern dominate the lower.

Let's take each of these separately. Hazelnut is the original source of the astringent witch hazel. It is a small tree when it grows wild.

The nuts are small and not usable by us but are



eaten by squirrels and other woodland creatures. Hazelnut serves as an important part of the food web

on Andrea's Trail.

The gray birch is a left over from when this area was an open field. It is a sprawling, flexible tree. During heavy snows the branches will bend to the ground.

Huckleberries ripen this week, you might see some here and there as we walk through this stretch. Songbirds, turkeys, mice, chipmunks, gray squirrels, and opossums eat these as soon as they emerge so few ever get seen or eaten by humans.

Stand of blueberry and huckleberry

Go left at #5



Bracken fern is a dry soil fern that thrives in partially shaded woodlands. This genus is seen worldwide on all continents except Antarctica. This fern has gone to the extreme in its protection of itself from grazing. The fern often grows near and around fields where sheep, cattle, and horses graze. This area of the trail goes through an old sheep pasture. Bracken ferns can cause enzootic hematuria, acute brackens, bright blindness, and bracken staggers among others in animals as diverse as horses, cows, sheep, and goats. Bracken fern fronds here are almost always intact, even though the area is home to ten or twelve white-tailed deer. Here is the crazy part: humans eat it. It is well known that it causes esophageal and gastric cancers. Don't eat bracken fern.



Hazelnut leaves



Bracken Fern

Station #6

At the Station #6 sign post there is a stand of sensitive fern. This is a fragrant deciduous shrub and not a fern at all.

A stone wall crosses most of our property. Earlier, along where the stone cutting took place, we crossed the run of the stone wall. There the wall had mostly fallen apart. These stone walls delineated fields, watering holes and property lines. Many stone walls were created originally as waste walls—a place for the larger cobbles to go when land was cleared. A field was an important commodity, a field that wouldn't trip up livestock, horse or oxen teams, or other plowing was a more valuable field. Some fields were cleared and cleaned enough for crops to be grown,



Sensitive Fern

others were cleared for grazing livestock. These remnant fields, which have long grown over into woodlands again when the economy of the eighteen hundreds changed, were mostly sheep and cattle fields with lots of grazing. The stone walls served as impediments for keeping livestock cordoned to a particular area. Obviously, they weren't foolproof. Cows and sheep probably wandered willy-nilly over them.



Stone walls

Station #7

We are back in lowlands with groundwater near the surface of the earth. To the left is the backside of the vernal pond that we viewed at the beginning of this walk. The canopy here is different than on the other side of the pond. Red maple remains as a stabilizing feature of the landscape, but here sour gum dominates. This tree has a variety of common names: black gum, pepperidge, tupelo, and out on Martha's Vineyard beetlebung. The species is Nyssa sylvatica. No part of the tree is particularly gummy. In fact, the wood is dense and hard. The beetlebung name probably represents the use of the tree in making it into a wooden hammer. A beetle is in fact a wooden mallet, and a bung is a stopper that is inserted into barrels that hold liquids of various sorts. These trees grow slowly and this stand probably represents a group that has persisted from before the area was cleared and used in farming. The wet soil here would not have given any reason for being cleared.

Back to the wet lands





Marsh Fern



Pixiecup mushrooms



Russula Mushroom



Indian Pipe, commensal of oak tree roots

Station #8

Thank you for joining us! The building is open to the public most days of the year from 10 AM till 4 PM. Please feel free to come in and wander.





Grape leaves