



The Newsletter of Monmouth County's Open Space, Parks & Recreation Agency

Vol. 52 No. 4 Winter 2018-19

## Best Of “Wild Wildlife”

Over the years, many staffers, volunteers and friends have submitted compelling wildlife photos taken in the parks. Some spent weeks surveilling their target or hours sitting in one place waiting for the perfect shot. Others just got lucky. Either way, we've archived these photos for research and record-keeping. We've also published some or posted them to Facebook or our website\* to share with the public. Here for the first time is a collection featuring some of the most colorful, unusual, amusing or just plain beautiful images from our archive.

## When Worlds Collide: Animals Sharing Our Spaces

As an agency dedicated to protecting wildlife habitat, it's no wonder these animals are occasionally spotted on our side of the fence.



Meet our Park System spokes-bird. We couldn't have planned this any better if we tried. This American Oystercatcher chick just happened to wander in front of our logo on a lifeguard boat at Seven Presidents Oceanfront Park.  
Photo: Volunteer Eleanor Swanson



(left) This Cooper's Hawk perched on a railing in one of our maintenance areas seems perturbed, while the Red-tailed Hawk on a sign at Shark River Park adopted a calmer attitude. Photo: Senior Park Manager Paul McCue.



Imagine getting caught behind this painfully slow 'player' at Hominy Hill Golf Course. (snapping turtle).



After a strong storm blew through Thompson Park and took down some trees (along with the animal nests and burrows inside), these two baby raccoons were seen wandering through a staff parking lot.



When this groundhog made a home inside an equestrian barn at Huber Woods Park instead of underneath, it became a stinky problem for us (as the animal did all its business inside). What made it even worse, however, was how it taunted us in the process. Photo: Sr. Naturalist Sam Skinner.



This Gray Tree Frog hangs out with park naturalists on a shed next to the Manasquan Reservoir Environmental Center. Photo: Naturalist Susan Harasty.



Say hi to the katydid that stood up and waved to us from an outside windowsill at the Thompson Park Visitor Center.  
Photo: Photographer Andi Monick



If this little fox kit keeps showing up on our equipment, we are going to put it to work. Photo: Retired Naturalist Bob Henschel



And it wouldn't be the first time! Horses at the Sunnyside Equestrian Center now earn their feed by raking out their own stalls.

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It took both skill and patience to catch these two renegade Roosters found wandering through a breezeway in Thompson Park. Pictured are the staff who got the job done, with netting and a cage.  
Photo: Maria Wojciechowski, Friends of the Parks



This window box at Huber Woods Environmental Center is a curious perch for a large Wild Turkey, as is the car window molding for this Common Yellowthroat.  
Photo: Sr. Naturalist Sam Skinner

## Not Cat Napping

You'd have to be fairly lucky to come upon these wildlife species during broad daylight or find them resting in place long enough to take a photo.



Drowsy Northern Water Snake.  
Photo: Sr. Naturalist Sam Skinner



Chipmunks are usually spotted hunched over an acorn, but this one—standing at attention—looks like it's waiting for the bus. Photographer: Maggie Reilly



Juvenile Great Horned Owl, just sitting still.  
Photo: Photographer Maribeth Gardner.

## True Colors

Due to a variable gene that prevents production of the pigment melanin, or a glitch in pigment(s) development, animals sometimes present with unusually colored fur, feathers, wings or skin. This could appear as an all-over paleness or just blotches or patches of white. The coloring of these animals may be described as pied or pie-bald, leucistic or partial albino depending on the species, pigment affected, and whether the cause is genetic or not.



White-tailed deer. Photos: Senior Park Manager Ken Olsen, Barbara Berry, Park Administrative Services



Monarch Butterfly. (Photos: Naturalist Paul Mandala and Asst. Superintendent Erika Bozza)



This Turkey Vulture was spotted in the wild at Huber Woods Park.  
Photo: Sr. Naturalist Sam Skinner



This Corn Snake is frequently featured in park reptile programs. Photo: Photographer Maribeth Gardner

Much rarer is a complete absence of the pigment melanin marked by all over white or pale color and pink or red eyes, known as complete albinism.



This Channel Catfish lives at the Manasquan Reservoir Environmental Center. Photo: Retired Naturalist Bob Henschel

# Baby Frogs & Turtle Hatchlings

These young frogs are so small (about the size of your fingernail) unless they occur in large numbers somewhere, you might not ever see them. The same is true for turtle hatchlings who are hard to find unless you know where to look.

## Duck, Duck, Goose

Here are some unusual features to note on these common species.



Note the red eye and red head of this breeding male Canvasback, a large diving duck that's so heavy it has to run-paddle along the water to take off, yet its one of the fastest at flying. Uncommon in NJ, it has been spotted from November-April at the Manasquan Reservoir. Photo: Retired Naturalist Bob Henschel

There are many theories about the male Mallard's curlicue tail feather related to diet, mating and genetics. Usually sporting 2-5 curls, drakes tend to hang onto them after molting to attract a mate. Photo: Photographer Maggie Reilly

Look closely to see the familiar Canada Goose in front, and a more unusually colored goose in back. This Pink-footed Goose, an arctic vagrant, was spotted last year near Marlu Lake in Thompson Park. Photo: Jeff Lee



Spring Peeper froglet. Photo: Principal Naturalist Chris Lanza



Snapping Turtle. Photo: Retired Park Ranger Kelly Cole

## Funny, Surprising & Grand

Sometimes photographers happen to catch animals in a strange state, from an unusual angle or up against a backdrop of natural splendor.



According to staff, Lambert the barn cat at Sunnyside Equestrian Center is just a little weird sometimes. Photo: Asst. Stable Manager Stephanie Hunt



You might think this Tiger Moth caterpillar was a little bashful from the way this leaf is positioned. Photo: Ilona Szabo deBucs, Golf Administration



The NYC skyline behind this juvenile Harp Seal on a Bayshore beach makes a stunning backdrop. If you come upon these tracks on the beach at Fisherman's Cove, you can now identify them as those of a Harp Seal. Photos: Sr. Naturalist Joe Reynolds, Ranger Pat Killeen.



LOL. The look on this Puffer's face with its air bladder expanded. Photo: Asst. Superintendent Erika Bozza



It's incredible how this strange looking orange caterpillar will someday become a black and blue Spicebush Swallowtail. Even more incredible, those are NOT eyes on its head, but deceiving eye spots to scare away predators. Tiny eyes are located up front. Photos: Ecologist Anna Luiten, Sr. Naturalist Joe Reynolds.



This Park Ranger simply had to keep his foot out, and that's where this little dog faithfully sat while waiting for its owner to return (apparently, to avoid the wet ground). Photo: Sr. Landscape Architect Robin Ostrowski



Scout, a pony at Sunnyside Equestrian Center, is caught mid gallop stride. This is called the moment of suspension because all four feet are off the ground, so it looks like he is hovering. Photo: Asst. Stable Manager Stephanie Hunt



Dune grass just can't camouflage the beauty of this Snowy Owl on the beach. Photo: Sr. Naturalist Joe Reynolds



When this fox kit got into a small bag of chips, it struggled to get out. All was okay in the end, but this photo sends a strong message about littering. Photo: Gabby Creevey, Historical Services

# Open Spaces, Livable Places News

## TAKE THE DEEP CUT GARDENS DIGITAL WALKING TOUR

Kristen Norbut, Park Historian

There's a new way for visitors to interact with the displays at Deep Cut Gardens. The Park System recently launched a digital walking tour using GIS (Geographic Information System) mapping software. This digital tour, also known as a story map, can be accessed using your phone, tablet or computer.



### Using Technology to Tour Deep Cut

You can take the tour on your computer or tablet by visiting the Deep Cut Gardens webpage of the Park System website. ([www.MonmouthCountyParks.com](http://www.MonmouthCountyParks.com)) Or, you scan this QR code with your smartphone camera or reader. The code can be found in the new Deep Cut Gardens brochure, and on signage in the park (coming soon).

Behind the obvious visual appeal of blooming flowers and picturesque pathways, there are many things going on behind the scenes at Deep Cut Gardens that are revealed on the digital tour. Staff used GIS to create an illustrated map of the grounds and provide deeper insight into the park's unique structures, intentional plantings, and curious history.

By using existing technology to explain park features, instead of installing traditional wayside panels, the natural beauty of the landscape is preserved. The result is an enlightening trip through the park with an invisible tour guide in your pocket.

### How the Tour Works

Start by scanning the QR code or typing the web address. After the story map loads you are greeted with an introductory page. Click "Start" and a map of the park appears with 22 numbered points of interest. Each represents a park feature. The green dashed line represents the trails.

Try out the story map on your mobile device  
<https://arcg.is/5Dnm>



While you are visiting the park, use your smartphone to learn more about Deep Cut features such as the Lily Pond.



Here's the introductory map slide with points of interest in purple, and the information panel at the bottom, and navigation options on top; and the Media View.

### Starting the Park Tour

A scrolling information panel at the bottom of the page introduces each point of interest. Click on this panel to open the Media tab (also accessible in the upper right-hand corner) and see a picture and full description of the resource.

- You can continue scrolling through the "Media" view to follow the pictures and learn about one park feature at a time.
- Or, you can view all the park features at once by clicking the "List" pane view (upper left-hand corner).
- To return to the aerial map view simply click "Map" at the top, center of the page.

These three viewing options are all available at all times, and you can switch easily between them. From time to time a point of interest description may include a link to an outside website. These external links will open a new window and will not close the application.

### Park Highlights

Deep Cut, like any garden, changes with the seasons. By using a digital platform, staff can update the tour with new features and add rotating exhibits effortlessly. Permanent features in the park are highlighted to provide additional depth and context.

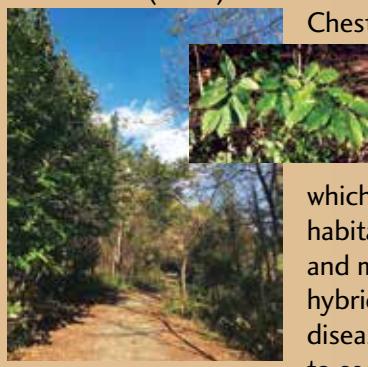
The Meadow Walk is one permanent feature where extra background information may be useful.

Park System Landscape Architects worked together with Deep Cut Managers to create forest groves, also called woodland meadows, to bloom or color in annual sequence as a year-round backdrop for the display gardens below. This area may appear to be just another attractive part of the landscape yet these groves, and nearly all plantings undertaken in the parks, are purposeful in design to promote forest health and reestablish native species.



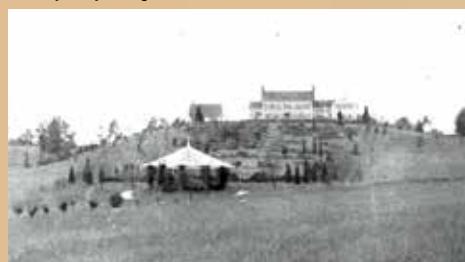
*Red Maples in the Maple Grove section of the Meadow Walk (back left) provide a colorful backdrop for the pergola and rose garden when leaves turn during fall (and when they bloom in spring.)*

The story map can provide additional information for the park-goer in areas where the objectives behind an exhibit or plantings may not be immediately obvious. For example, this same Meadow Walk is also home to a Chestnut Grove where staff have been working with The American Chestnut Foundation (TACF) volunteers to reintroduce the American



*The fate of the American Chestnut may be looking up.*

Another background story which is part of the park's history is that of notorious crime boss Vito Genovese, who purchased the property in 1935. Once known as the "Boss of all Bosses,"



*The house on the hill, Genovese Era, 1930s.*

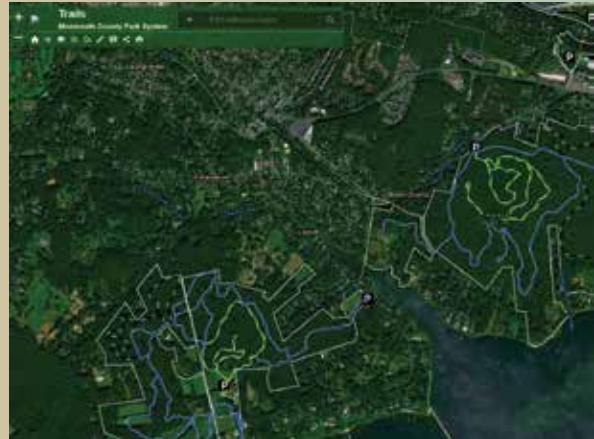
it was Genovese who hired local landscape architect Theodore Stout to design many of the notable garden features, such as the Rose Parterre and Pergola, the Rockery, and Mount Vesuvius.

If you are interested in the full history of the park, visit the Horticultural Center to view detailed interpretive panels.

The digital story map offers less detail, but allows users to identify various features while they are walking around the park. This includes the location of some which are no longer visible in the landscape, like the large Colonial Revival house (pictured) that burned down mysteriously just after Vito and his wife Anna fled to Italy under threat of a murder indictment.

## New Applications Using Familiar Technology

Park staff use GIS for a wide variety of projects, from deer management mapping and tree studies to open space planning and a map app to help navigate park trails (available on the Park System website, pictured). While Deep Cut is our first "walking-tour" style story map, more are planned for areas with historic features that could use detailed description, such as the buildings at Thompson Park in Lincroft and the Imlaystown Historic District at Clayton Park in Upper Freehold.



*GIS map app for Park System trails is available on our website (click on Parks, Map Gallery). Or download the free smartphone app from Esri, instructions online.*

This project has also opened the door to new ideas, including a possible interactive family-oriented digital tour which would provide stories and questions to engage visitors for a new level of interaction inside the parks.

## Can You Take A Digital Escape Into Nature?

For those taking the Deep Cut Digital Walking Tour online, the beauty of the site is showcased in a basic way that hopefully invites users to come see the park in person. However, since this may not always be an option, especially for those with mobility issues or transportation limitations, the story map provides a window into the park which may have been unavailable before.

Some people have expressed concern that this new digital tour may create "cellphone zombies" wandering around the parks. But we like to think of it as an additional resource that's pulled out as needed, to provide background and history of park features to enhance the visitor experience.



*Whether you view remotely from your computer at home, or while using a smartphone in the park—this new feature is meant to enhance your experience.*

# Deep Cut Gardens Home Gardener

152 Red Hill Road  
Middletown, NJ 07748

GS Parkway Exit 114, to Red Hill Road  
732-671-6050

## Botanical Illustration at the Crossroads of Art & Science

Ruth Carll, Naturalist & Horticulturalist

For hundreds of years, beautiful botanical works have graced the walls of homes to palaces. While plants are an age-old muse, the practice of painting them has evolved. Today, science and art, often considered opposites, combine beauty and accuracy in the field of botanical illustration.

### The Early Herbals & Botanical Art

One of the oldest and most well-known books of early botanical artwork is an herbal encyclopedia called *De Materia Medica*, compiled by Dioscorides, a Greek physician, pharmacologist and botanist between the years 50-70AD. It remained widely read for 1,500 years, and is considered the precursor to all our modern books on drug-making.<sup>1</sup>

These early "herbals" contain medicinal, culinary and household uses of plants along with their natural history. Illustrated with drawings accurate enough to allow for plant identification, they are historically important books prized for their information and beauty.



The Garden, fresco from Nebamun tomb in Egypt now in the British Museum, London, painting on plaster, circa 1380BC. Photo: Yann Forget, The Absolute Museum (Phaidon Press), Wikicommons.

Plants remained a common art subject throughout history in still-life paintings by hobbyists as well as masters such as da Vinci, who was credited as a botanist among his many other talents. The Renaissance between the 14th-17th C. brought an intense focus on scholarship and with it, a new dimension of botanical art as documentation emerged.<sup>2-7, 12</sup>

The intimate nature of how the artist worked with their subjects led to a thorough knowledge of plant anatomy, establishing them as experts in botany as well as art. This dual mastery gave rise to the field of scientific illustration as a thing separate from art or science alone. During this time, we also begin to see women recognized as scientists due to their contributions to botany through illustration.<sup>2-7, 12</sup>



Version of *De Materia Medica* from 15th C. Byzantium (late Roman). Note the detailed margin drawings, even the script is beautiful. Photo: By PHGCOM, (Musée de Cluny), Wikicommons.

### Botanical Illustration vs. Art

**Botanical illustration** is when the illustrator observes many individual examples of a species throughout their life cycle and then creates an accurate, detailed, generalized depiction, including fruit, flowers and seeds. The best botanical illustrators also imbibe their drawings with a sense of the "character and animation" which brings a subject to life.

**Botanical art** fairly accurately depicts a plant, but has beauty as the primary goal. These pictures do not usually contain

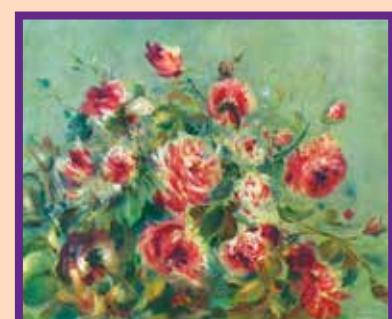
ephemeral parts such as fruits and flowers and are not annotated.

**Floral art** is when the plant is the subject, but is guided by the creative expression of the artist.



#### Botanical Illustration.

"The root, blossoms and other details of *Brassica rapa* (turnip)," from Blackwell's *A Curious Herbal*, watercolor, 1735. Photo: www.osgf.org library, Wikicommons.



**Floral Art.** Renoir's *Stilleben, Rosen von Vargemont*, oil on canvas, 1882. Private collection, Paris. Photo: The Yorck Project (2002), Wikicommons

# The Golden Age of Botanical Illustration (1750-1850)

The Scientific Revolution of the 16th-18th C. brought forth a new form of academic thinking called natural history (the study of nature). Botany was at the forefront, and what emerged was a golden era for botanical illustration. "Gentlemen scientists" traveled the world, observing plants and prolifically writing papers about their findings. Aristocratic ladies, with years of painting experience, created some of the most significant botanical documentation to this day. Along with advances in printing, this led to the creation of many amazing collections of botanical illustration.<sup>2-7,12</sup>

As travel became more accessible, field guides rose in popularity. Botanical societies and journals, such as *Curtis's Botanical Magazine*, played an important role in establishing botanical illustration as a career option for artists. Looking forward, you might expect that advances in photography during the 20th C. and digital media of the 21st C. would spell disaster for scientific illustration, but this was not the case.<sup>2-7,12</sup>

While a photograph might capture an individual plant in perfect detail, illustrations capture the form, color and details of a species as a whole. The field of botanical illustration is still thriving. There have been some changes with the advent of new materials and technologies, but the role remains the same – preserve the identity and detail of the amazing assortment of plant life on this planet.

## Botanical Illustration Opens Doors for Women in Science

Some early women of science, such as Marie Curie, made a mark in their field and became well-known for their discoveries. However, women in botany all over the world repeatedly achieved the highest honors yet remained relatively unknown. Here's an introduction to just a few of the early pioneers. They all began as artists but left a legacy as scientists, and paved the way for many more to follow in their footsteps.

The plant and insect life cycle paintings of **Maria Sibylla Merian** (1647-1717/Germany), published in 1675, are credited as the first to accurately describe insect metamorphosis. Almost 200 years before Darwin sailed on the HMS Beagle, Merian made trips to South America to document the plants and insects. She is thought to be one of the greatest botanical illustrators ever known and as a founder of modern botany and entomology.<sup>7,12,17</sup>



Merian Portrait 1700:  
Jacobus Houbraken,  
Wikicommons



"Pineapples and Cockroaches"  
from Merian's  
*Metamorphosis of Insects in Surinam*,  
circa 1710. Photo:  
Wikicommons

Watercolor teacher **Elizabeth Blackwell** (c1700-1758/Scotland), is among the first to draw, engrave and hand-color her own publication, *A Curious Herbal* in 1735, one

the most respected herbals ever produced. In 1757, she became the first woman to formally identify and publish a new species name. Later, the entire genus *Blackwellia* was named in her honor.<sup>7-9,13,15</sup>



Blackwell Portrait 1737:  
National Library of  
Medicine, Wikicommons

"*Malva arborea (tree mallow)" ink*  
and watercolor, plate from Blackwell's  
*A Curious Herbal*, 1735. Photo: www.  
osgf.org library, Wikicommons.



**While a photograph might capture an individual plant in perfect detail, illustrations capture the form, color and details of a species as a whole.**

**Anne Pratt** (1806-1893/England) wrote and illustrated more than 20 books and is credited with popularizing botany due to her accessible writing style and beautiful illustrations. She never received acclaim during her lifetime due to academic prejudice because she was a self-taught botanist, yet her work served as botanical reference long into the 20th century.<sup>7,12,19</sup>



Pratt Portrait 1830s:  
www.magnoliabox.com/art,  
Wikicommons



"Six flowering plants, including  
Angelica species, fennel and  
parsnip." Photo: Wellcome  
Collection, Wikicommons

**Marianne North** (1830-1890/England) never married and cared for her aging father until his death. She began traveling in her 40s, visiting 17 countries on 6 continents, illustrating plants from around the world – all wearing a Victorian dress and traveling alone. Her more than 800 drawings are so impactful that she is considered a pioneer of botany. Her work is kept on display at Kew Gardens, London and is the longest continuous showing of a single female artist's work in England's history.<sup>7,12,14</sup>



North Portrait, before 1879  
Ceylon: Photographer Julia  
Margaret Cameron, Wikicommons.

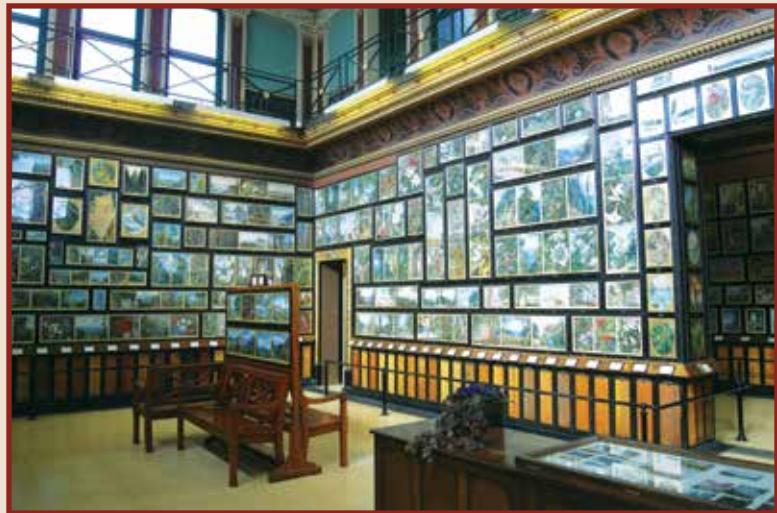
Other famous female names in botanical illustration include:

- **Matilda Smith** (1854-1926/England) who published more than 2,300 illustrations over forty years and became the first official artist of the Royal Botanic Gardens at Kew<sup>7,11,12,18</sup>
- **Margaret Flockton** (1861-1953/Australia) who created over 1,000 high quality botanical drawings documenting the plants of Sydney<sup>5,7,12</sup>
- **Cythna Lindenberg Letty** (1895-1985/South Africa) who made significant contributions to the documentation of South African botany and designed the floral motifs 10, 20 and 50 cent pieces when coins were introduced<sup>7,10,12</sup>
- **Margaret Mee** (1909-1988/England) lived in the Amazon rainforest, studying plants and painting and was recognized for environmental achievements by the UN<sup>3,7,12,16</sup>

Of course, these are but a very small number of the women who contributed to the field of botany through illustration. There are hundreds of plants bearing their names, as well as those of other women illustrators, to honor their impact on the field of botany.

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Works of Marianne North on display at The Royal Botanical Gardens, Kew in London Photo: Patche99z, Wikicommons.



Matilda Smith's illustration of the "Corpse Flower (1891) (*Amorphophallus titanum*)" during its first blooming at Kew Gardens in 1889 and "Aristolochia longicaudata (1915)," both from *Curtis's Botanical Magazine*. Photo: <http://www.botanicus.org/page/441733> and <http://www.botanicus.org/page/472490>, Wikicommons



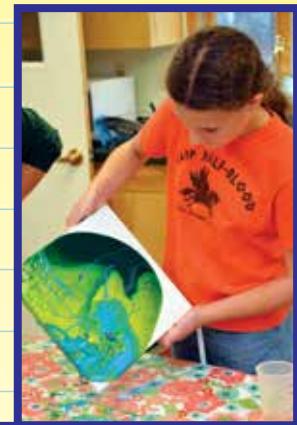
Margaret Flockton's "Eucalyptus sideroxylon" in pen and ink, Plate 49 from *Forest Flora of New South Wales 1904-1922*. Photo: <http://purl.library.usyd.edu.au/setis/mvid/p00108>, Wikicommons

# IT'S TIME TO....

January ✓



**LEARN!** When the urge to garden strikes you, head over to Deep Cut's library or go online and look up one of the plants in your yard. Learn when it should be pruned, what fertilizer it needs and which pests may affect it. By spring you will know a lot more about the plants for which you are the caretaker.



February ✓



**PLAN!** With the knowledge you have gained, create a calendar that guides the activity needed for your specific plants. Just add one plant's needs at a time until you have a To Do list that is custom made for your yard.



**WAIT!** Don't dig or sow – even if it warms up. It is too early and you may damage dormant perennial roots or start seeds that will not survive.



March ✓



**PREPARE!** Add well-rotted manure and compost to vegetable and annual beds, fertilize trees and shrubs, apply lime if needed, clean pots and bird baths.

**PLANT!** But only deciduous trees and shrubs. If any perennials pop up, you can divide and replant those too.



Artists find inspiration in the gardens at Deep Cut.

## PHOTOGRAPHY EXHIBITS IN THE PARKS

Enjoy the beauty of the parks through a camera lens. Two photography exhibits will be held this winter to offer a different look on how we view the parks and the nature that surrounds them. The theme this year is "The Cycle of Life," and photographers were invited to take photos at both Deep Cut Gardens and Manasquan Reservoir. If you want to see what's different (or the same) about these two sites, visit both exhibits!

### Deep Cut Gardens

**Exhibit Open: January 2-31, 10 a.m. - 4 p.m.**



Here's our internal submission for the "Cycle of Life." Two phases of monarch life cycle caught in one photo: caterpillar (under the center leaf) and adult (flying out of frame).

### NEW! Manasquan Reservoir

**Exhibit Open: February 2-28, 10 a.m. - 4:30 p.m.**

## Are you interested in volunteering at Deep Cut Gardens?

We are looking for docents, welcome desk volunteers, garden assistants and more.

Please email us at: [volunteer@monmouthcountyparks.com](mailto:volunteer@monmouthcountyparks.com).

Did you know? Our volunteers receive great training before they get started.

# CORNER

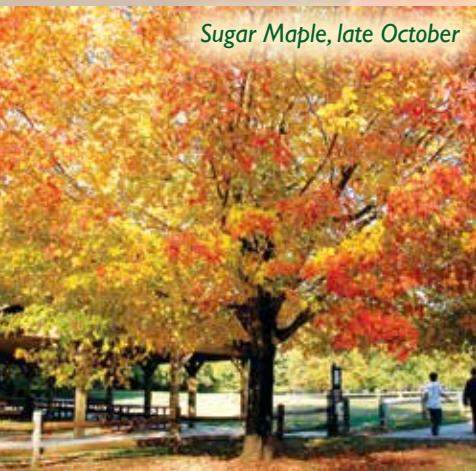
NATURE

## THE SUGAR MAPLE: A SAPPY STORY

Ilana Feitlowitz, Seasonal Park Naturalist

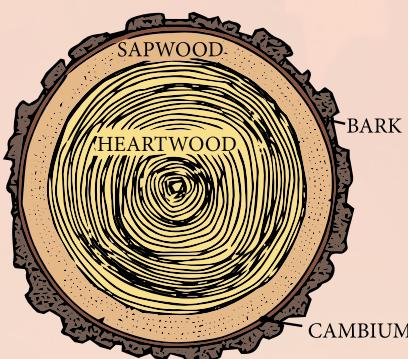
All maple trees produce sap that, when evaporated, becomes syrup. But only one species—the sugar maple (*Acer saccharum*)—produces sap with enough sugar and flavor to become a breakfast staple. Sugar maples, also called “Hard maple,” primarily grow in the northeastern region of North America.

Sugar Maple, late October



### Tapping Trees for Sap

Sap moves through a tree much like blood runs through the human circulatory system. Sap from the sugar maple is about 98% water and 2% sugar, with other nutrients and minerals.<sup>1</sup> It flows through a portion of the outer tree trunk called sapwood. Sapwood consists of actively growing cells that move the sap from the roots to the branches.



Cross section of a hardwood tree. The sap-producing wood is found between the cambium and the heartwood. From: “Many Maples” Exhibit, Huber Woods Environmental Center, Autumn 2016.

Sap flows heavily in late winter or early spring when evening temperatures are still below freezing, and day temperatures are above 40°F. To remove sap, the tree is “tapped” by drilling a small hole into the trunk. Then, a spout called a spile is inserted into the hole. (Trees with cracks or woodpecker holes in their bark and cambium will often drip sap naturally.) Finally, a bucket is attached to the spile to collect the sap.



Seasonal Naturalist Tara Connolly and young friends prepare to tap a maple tree at From Sap to Syrup, program at Huber Woods Park each winter.



Clear sugar maple sap drips into a collection bucket. Note the spile has a hook to attach the bucket. Photo: Frédéric Wagner Wikicommons.

When done properly, tapping should not permanently injure the tree. Experts give varying advice on how wide in diameter a tree trunk must be in order to safely tap. Here are some guidelines according to the **Cornell Sugar Maple Research and Extension Program**:

- 10-17" diameter tree can have 1 tap
- 18-24" diameter tree can have 2 taps
- > 25" diameter trees can have 3 taps

Holes should be drilled between 1.5-2.5" deep and angled slightly upward, so the sap runs out towards the spout.<sup>2</sup> Healthy trees may be tapped for decades.

### Evaporating Sap Into Syrup

Approximately 40 gallons of sap is needed to produce just one gallon of maple syrup!<sup>3</sup> To purify sap into maple syrup, the water in the sap needs to be evaporated off by boiling down the liquid to approximately 33% water and 67% sugar.<sup>3</sup> Collected sap is boiled over a fire that must be carefully watched to avoid burning. Depending on weather and the sugar content of the sap, this process can take between 9-24 hours. Most sugarmakers boil or evaporate sap outdoors in open vats or in special ventilated facilities called “sugar shacks.” Boiling maple sap indoors produces lots of steam that can damage kitchen walls and coat surfaces with sugary residue.

As the water in the sap evaporates, a thick syrup is left behind. The syrup is then filtered for impurities and poured into sterilized bottles for storage. Maple syrup is graded by color and taste. Syrup made from sap collected early in the season has a lighter color, while syrup made later in the season, when the weather is warmer, is darker: the darker the syrup, the stronger the flavor. In the past, syrup was graded



*Grades of maple syrup. Photo: Dvortygirl, Wikicommons*

A-D, mistakenly leading consumers to think that Grade A was preferable to the others. This system has been discontinued as it is a matter of consumer taste.<sup>4</sup>

## How to Recognize a Sugar Maple

Sugar maples are a visual treat in fall when their leaves turn yellow, bright burnt orange, or red. Off season, their leaves are usually 5-lobed, three to five inches in length, and bright green in color, with a paler green underside. The trees can grow to 100' in height, with >24" diameter. They prefer rich and moist, well-drained sites and are commonly found in forests with beech, birch, and other hardwoods. Lumber from maple trees is prized for the making of furniture, musical instruments, flooring, and baseball bats.

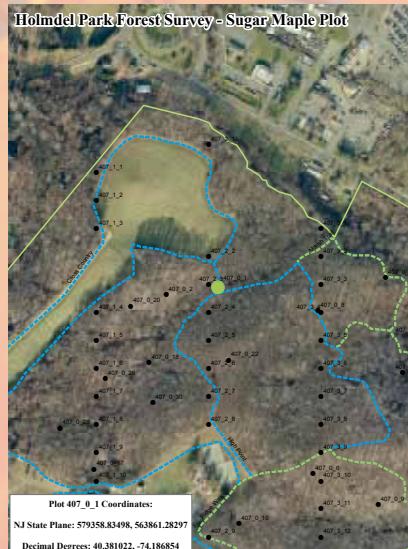


*Compare late summer maple leaves.*

About 15 different maple species are native to North America. They vary in many respects, but all are deciduous, meaning their leaves fall off seasonally. According to the US Forest Service, the Red Maple is the most abundant tree in the northeast and you can easily find those here in the parks of Monmouth County. Norway Maples are also very common. And, we have quite a few pockets of planted ornamental Sugar Maples (developed areas of Thompson and Holmdel Park are good places to look).



*Ornamental Sugar Maples can be found at Thompson Park (see title panel, top left) and at Holmdel Park (pictured here) along the paved path/roads and parking lots.*



But naturally occurring Sugar Maples are relatively rare in our parks, because we are located south of their range. We do have 3 known spots of naturally occurring sugar maple(s): two at Perrineville Lake Park in Millstone and one at Holmdel Park. They are tracked as part of our Native Forest Inventory and mapped in a database by staff Ecologists.

*Naturally occurring Sugar Maple near "the bowl" in Holmdel Park (bright green dot).*

## Sugar Maple Details

Maple trees flower in late winter to early spring, often before their leaves appear. Their blossoms form in small, inconspicuous clusters that have huge environmental impact. Often, they are the only pollen available for early hatching insects, like the honey bee. Maples are pollination generalists meaning they don't depend on one form of pollination for their survival. While pollination by flying insects is more precise, the maple tree often blooms before many insects hatch. Where insects are less abundant, maple trees depend on wind pollination.

It may take 30 years before a maple tree produces fruit: the flat, two-winged samara, known to children through the ages as "whirlygigs" or "helicopters." Samaras separate from the tree over several weeks in autumn. Their shape allows them to be borne great distances in the wind, helping to disperse the species. Samaras also provide food for deer, flying squirrels, chipmunks and other mammals.



*Sugar Maple, spring flower blossoms. Photo: Franklin Farm Fairfax Co VA, wikicommons*

## Tap Trees with a Naturalist

*From Sap to Syrup* is one of the most popular late winter programs in the parks. This year, it will be held at Huber Woods Park on February 23 and 24, 2019. The program includes syrup sampling, a demonstration on how to tap a tree as well as a walk and lesson on how to identify trees in winter. Information will be available on how to tap trees and make maple syrup at home. See our **Parks & Programs** Guide at [www.MonmouthCountyParks.com](http://www.MonmouthCountyParks.com).

### Footnotes & References

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4. Guide to Maple Syrup Grades. New England Today FOOD. <https://newengland.com/today/food/guide-to-maple-syrup-grades>\*

Big Tree Registry. [http://www.nj.gov/dep/parksandforests/forest/community/bigtree\\_registry.html](http://www.nj.gov/dep/parksandforests/forest/community/bigtree_registry.html) • Bragg, Don C.; Stokke, Douglas C. 1994. Field Identification of Birdseye in Sugar Maple (*Acer saccharum* Marsh.). Res. Pap. NC-317. St. Paul, MN: United States Department of Agriculture, Forest Service, North Central Forest Experiment Station, p 2 • Symonds, George W. D., The Tree Identification Book. 1958



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### The Best of Our Wildlife Photo Files

Also...Take A Digital Garden Tour, Learn About Botanical Illustration, and Find Out What's "On Tap" in the Forest



It looks like this buck has an outrageous set of antlers. But it turns out, one of our Park Rangers took this photo at the exact moment two buck were lined up perfectly, one behind the other.



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