



If you are always racing to the next moment, what happens to the one you are in? –Anon.

Snail On A Trail

Lisa Bonelli, Asst. Public Information Officer & Green Heritage Editor

Last May, during an evening run at Thompson Park, I came upon dozens and dozens of small snails along the paved loop near Marlu Lake. It was an unusually wet spring, and that day it was drizzling, so I thought this might be the by-product of weather and location (snails like moisture, right?). Even so, it was the first time in many years running at this site that I saw so many snails on the trail.

I tried to continue but the snails were just moseying along the trail edge, sometimes alone, sometimes together, and I had a hard time avoiding them. I certainly didn't want to step on one! So I kept my eyes peeled to the ground, trying to stay on pace and in my lane, hop-skipping around them. But it was awkward and I soon had to stop. Why were these creatures foiling my perfectly good run, I wondered?

I bent down to take a closer look. Cute! But, they were in a precarious position and v-e-r-y slow moving. So I took some pictures to send to our Naturalists for a species ID and explanation. Then I walked for awhile until the snails thinned out, and resumed my run.*

It wasn't until later, when I took a good look at this photo, that it struck me. Nature has a way of revealing certain truths. And maybe this little snail on the trail, just moving along at its own snail pace towards some unknown snail destination, had a simple message for us bigger folk...slow down.

*It's a Grove Snail, native to Western Europe. They may be out in search of food, and with soft, moist bodies find it easier to move about when its wet. This happened again a few months later on a paved path at the county Fairgrounds in East Freehold after a heavy rain.



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On Slowing Down & Simplifying

Just as we get used to processing the daily avalanche of news, ideas, entertainment and other information streaming at us through technology, a handful of cultural movements come along entreating us to live more simply, consciously and deliberately. Each offers a slightly different approach to relieve the ill effects of our overly busy, disconnected and sometimes consumption-driven lives.

“Trade your busy life for a full one.”

—Courtney Carver, author of Soulful Simplicity¹

Their goal is to reduce stress and over-attachment to things like our phone, video games and social media, to find deeper meaning and restore balance in our lives. Perhaps you’ve seen, heard or read about ...

- **Simple Living/Simplicity**—making deliberate, thoughtful choices about purchases and activities; the opposite of being on auto-pilot. Minimizing excess; becoming more self-reliant to achieve peace and clarity.
- **Minimalism**—living more frugally on purpose, independent of income; reducing possessions, de-cluttering and organizing, and keeping only the basics to help refocus on the less materialistic aspects of life.
- **Slow Movement**—taking a slower, simpler and/or more traditional approach to the routines of life: eating, working, parenting, leisure, etc. Planning ahead and moving purposefully through tasks to give your mind and body rest from rapid-fire thoughts and actions.
- **Mindfulness**—practicing awareness of the present moment and learning to accept current circumstances without judgment. The goal is to achieve peaceful balance in your internal state; freedom from emotional attachment and obsessive thinking.

These aren’t new ideas. The value of living a simpler more purposeful life, free from the trappings of materialism, has been admired throughout history, dating back to early Greek philosophers. With ancient roots in both eastern and western religious traditions, this may include such practices as meditation, living separate from the world (monasteries), purposeful acts of good works, hard work and/or self-denial such as fasting or giving up something of value, or otherwise living austere, such as the Amish.^{2,3} Many respected thinkers, artists and philosophers have been quoted on the merits of simplicity for clarity of thinking and moral development.

“Simplicity is the ultimate sophistication.”

—Leonardo Da Vinci

Simplicity practices often include recommendations to spend more time in nature, to quiet the mind and benefit from the therapeutic effects of fresh air; natural smells, sounds and scenery; and proximity to plants, wildlife and open spaces. Perhaps the ultimate example of living simply and close to nature is that of Henry David Thoreau. He famously removed himself from society to live alone with minimal comforts in a spare cabin on Walden Pond in Concord, MA (pictured, now a National Landmark) for two years from 1845-1847.⁴

He wrote prolifically about that experience and many other things as a scientist, naturalist and philosopher, attracting a wide following across disciplines:

I do believe in simplicity. It is astonishing as well as sad, how many trivial affairs even the wisest thinks he must attend to in a day... When the mathematician would solve a difficult problem, he first frees the equation of all encumbrances, and reduces it to its simplest terms. So simplify the problem of life, distinguish the necessary and the real. Probe the earth to see where your main roots run.

--Henry David Thoreau



Thoreau's cabin

A Path to Slow & Simple Living

The social movements of the 1960s and 1970s may have been among the first modern responses to cultural complexity, featuring practices to awaken consciousness, protect the environment, and adopt a more healthful, natural approach to everything from fashion to cooking.²



A few seminal books were published in the decades that followed, formally outlining the principles of living simply. They include *Voluntary Simplicity* by Duane Elgin (1981) and *The Simple Living Guide* by Janet Luhrs (1997).

In between, *The Slow Food Movement* emerged in 1986 in Italy as a pointed response to industrialized fast food. The idea was to promote traditional food production and preparation methods, and the use of local ingredients. Today there's a successful non-profit organization "involving millions of people in over 160 countries" per their website www.slowfood.com (and they use a snail as their logo!).^{2,3,5-7}

By 2004, Canadian journalist Carl Honore wrote the first of three well-known books about *The Slow Movement*. He suggests that of course there's a benefit to thinking fast sometimes, we live in a fast world. We just need to learn how to switch it off.

Research has shown that time pressure leads to tunnel vision and that people think more creatively when they are calm... Your best ideas seldom come when juggling emails, rushing to meet the 5pm deadline or... in a high-stress meeting. They come when you're walking the dog, soaking in the bath or swinging in a hammock.

--Carl Honore, In Praise of Slow Thinking⁸

He goes on to cite how some of our greatest thinkers knew the value of "shifting to a slower gear," including Albert Einstein and Charles Darwin.^{9,10} Slow authors include Jane Austen (*Pride & Prejudice*) and Victor Hugo (*Les Miserables*), who each took decades to finish these works.¹¹

The Slow Movement expanded naturally over time to include *Slow Travel* (savor the journey), *Slow Parenting* (more play, less pressure), *Slow Cities* (quality instead of sprawl), *Slow Workplaces* (slow fixes for long-term results), etc.^{9,10}

It turns out, you can "slow down" just about any aspect of modern life.^{6,9,10} And, there are now dozens of blogs and other media platforms (podcasts, videos, Instagram accounts) that can show you how.

Taking a different approach to slowing things down, *Mindfulness Meditation* has been gaining positive attention as a way to achieve mental calmness for those who may feel overwhelmed, exhausted and/or distracted. This practice has demonstrated effectiveness for easing general anxiety and mental stress, but may also be effective for more serious mental illness when combined with certain kinds of therapy.^{12,13}

This kind of meditation involves step-by-step guidance to help focus breathing and relax thinking to quiet the mind. In time, this simple practice can help people learn how to be calm in the present moment, free from fear or judgement.^{14,15} There are many online articles, websites and videos dedicated to teaching you how, but one of the easiest ways may be one of many free apps. Yes, in a twist of irony, that does mean using the very same device that may have contributed to your un-quiet mind in the first place.

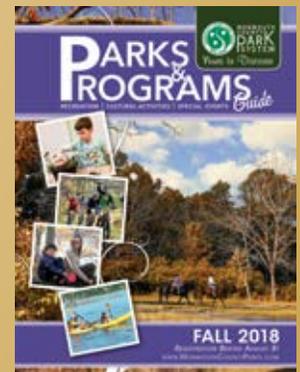


With regard to minimizing distraction and living in the moment, although he was born over 200 years ago—long before daily life in the US reached its current fever-pitch—Thoreau may have said it best:

Both for bodily and mental health, court the present.

—Henry David Thoreau

Interested in implementing some of these practices? The Park System is offering classes this fall in meditation and mindfulness including Forest Bathing, as well as a dozen different types of yoga.



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Citizen Survey Results

Paul Gleitz, Park Planner

The Monmouth County Park System conducts periodic surveys to gather feedback from residents. The results help us set priorities for future land acquisitions and learn how we could improve current parks and facilities. Our previous survey was conducted by regular mail in 2008; our most recent survey was conducted via email and completed last year.

The **2017 Monmouth County Open Space Plan Citizen Survey** was sent to more than 40,000 people, resulting in 3,258 visits to our survey website. In total, 874 surveys were completed with 98% of the respondents residing in Monmouth County.

The survey also asked several different kinds of questions to assess the benefits, functions and priorities of the Park System, and to see if any changes are needed. Multiple choice options were given as well as open ended responses.

A Sample of Survey Responses

With regard to how open space should be used for parks and recreation, the most popular option involved some type of development for either passive or active recreation. (Survey Question 1)



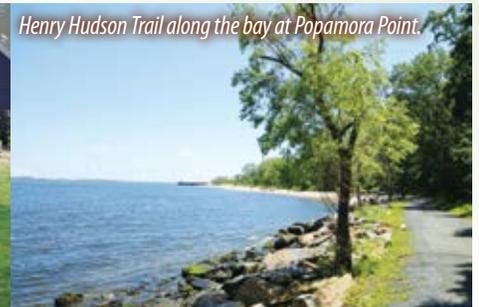
Deep Cut Gardens



Trails at Holmdel Park



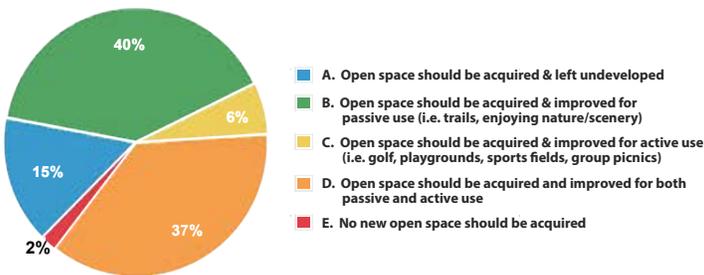
Historic Longstreet Farm



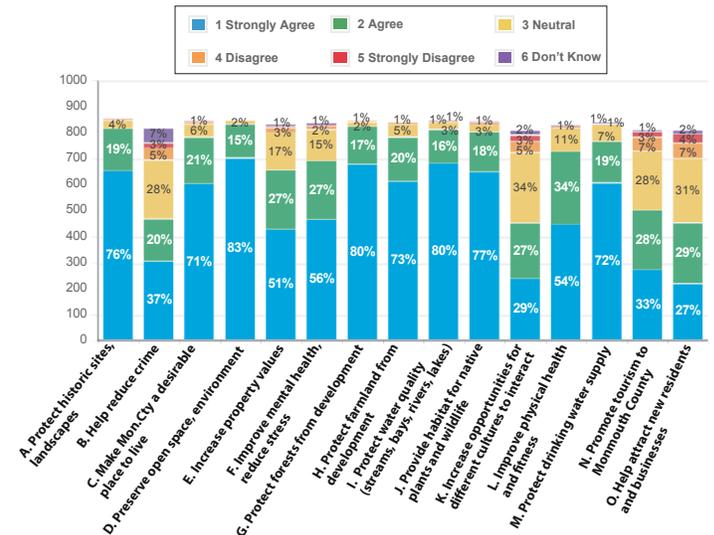
Henry Hudson Trail along the bay at Popamora Point.

Respondents were asked a series of questions to assess the benefits received from parks and recreational services. The most important benefit for all three questions was the preservation of open space and the environment. This was followed closely by preservation of forests, historic sites and landscapes, and water quality. (Survey Questions 2, 3, 4)

1. The Park System has many options regarding acquiring and developing open space for parks and recreation. Please check the ONE option that you and members of your household would support the most.



2. The following are some benefits you and your household may receive from the parks. For each potential benefit listed, please indicate your level of agreement.



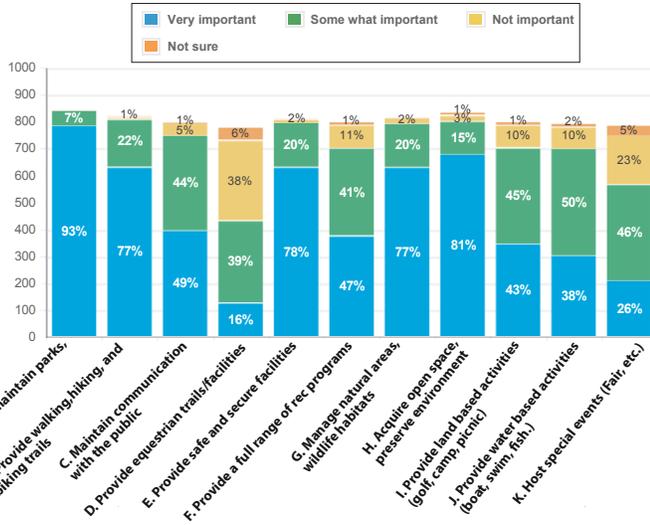
Kayaking at more than a dozen park sites



Hominy Hill Golf Course

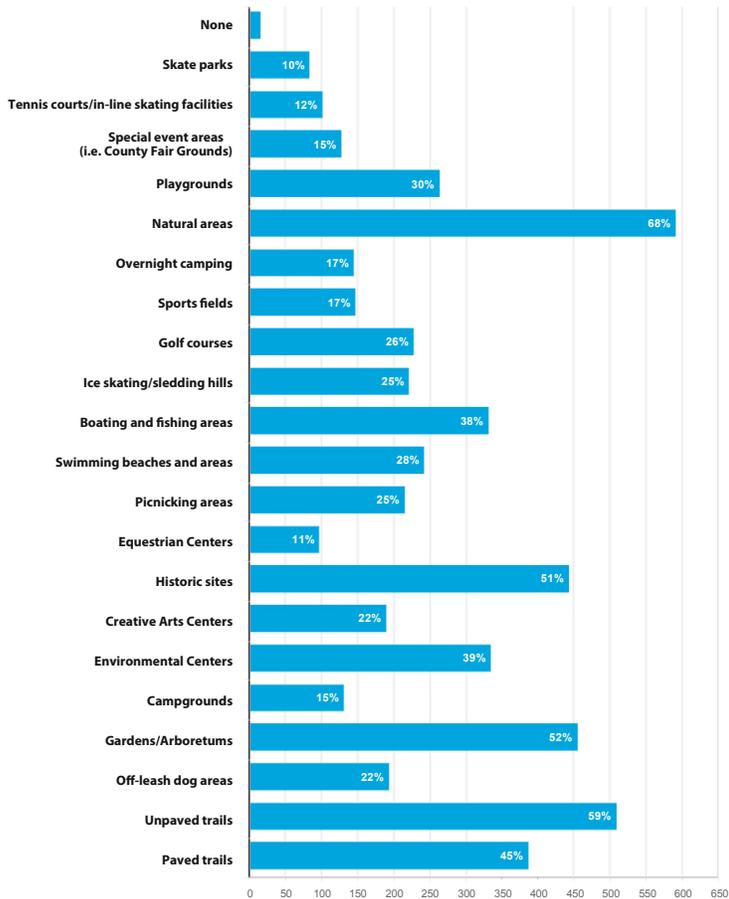
The most important function of the Park System, according to respondents, is to operate and maintain the county parks and provide trails. Almost equally important is for the Park System to provide safe and secure facilities, manage natural areas, and acquire open space. (Question 5)

5. For each of the following functions performed by the Monmouth County Park System, please indicate the level of importance.



When asked to prioritize which park facilities should be developed/expanded, natural areas, unpaved trails, gardens and historic sites were selected most often. (Question 8)

8. Please check ALL the park facilities that you or members of your household would most like to see developed or expanded in the Monmouth County parks.



Respondent Comments

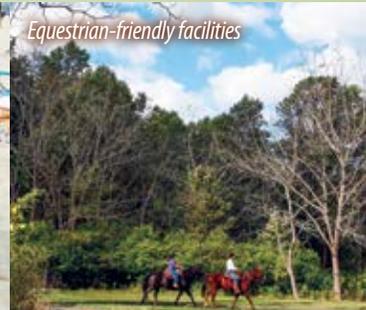
One important theme that emerged was concern over development and increasing population. Many indicated that they would like land to be acquired by the parks while it was still an option (but without an increase in taxes). There were also some competing interests among residents, particularly with regard to golf and hunting.

Protecting our pollinators.



“Your work is needed now more than ever to preserve open space and save land from development...”

There is also strong support for connecting sections of the Henry Hudson Trail and adding bike lanes to increase access to the parks. In terms of improvements, better signage is requested on trails and more seating options in the parks. The “wishlist” for new amenities includes: skate parks, outdoor basketball courts, indoor pickleball courts, dog parks, new and improved playgrounds, liquor permits, an ice skating rink, floating docks and boat launch, cross-country ski opportunities, shuttle service, equestrian facilities, fitness equipment along trails, and lawn activities (shuffleboard, horseshoes, and outdoor chess tables).



Respondents were also asked about potential acquisitions, trail connections and intersections, sidewalks and crossings that could be improved to increase access to the parks. Some of the sites mentioned have already been identified by the Park System while others require further investigation.

“Outstanding and needs to be preserved. One of the greatest park systems in the nation!”

TO BULB or NOT TO BULB – That Is The Question!

Ruth Carll, Naturalist & Horticulturalist

Fall is the perfect time to plant spring-flowering bulbs. Off we go to the store where we find ourselves standing in front of a rack that contains bulbs. However, not everything labeled a bulb actually is a bulb! This article explores the various types of plants that we purchase under the term “bulb.”

Like all flowering plants, spring flowers produce seeds as a form of reproduction. However, plants that can also reproduce through cloning get a jump start the moment winter breaks because they already have stored reserves and the starts of roots and leaves. Seeds, on the other hand, can take years to mature.

These cloned plants take a variety of forms, many of which we call “spring bulbs.” Let’s learn about some of these interesting plant parts and why they make perfect spring bloomers.

There are five types of bulb: true bulbs, corms, tuberous roots and stems, and rhizomes.

True Bulbs

A true bulb is a plant structure that consists of layers of modified leaves. The most recognizable bulb we have is the onion. If you cut an onion in half from top to bottom you can see that most of the onion consists of layers of leaves with a small flat stem at the base and roots on the very bottom.

Other examples of true bulbs include tulips, amaryllis, daffodils and lilies. The base of each leaf is filled with sugars that will give the plant the energy to sprout before it has leaves to produce food. While onions represent an edible bulb, some bulbs such as hyacinth, narcissus and daffodil are poisonous if eaten.



True bulbs, such as the tulip, have roots, a base, distinct leaves and a stem up top. Note the clone bottom right; this will form a new plant and flower.



A “bulb” is a fleshy structure that may be parts stem, leaf, or root and is used to store nutrients when dormant.

Growing A Tulip From Seed

Have you ever seen a tulip seed? Maybe not, since most people grow them from bulbs. The seeds are located inside the ovary at the base of the flower’s pistil (center). You can see this structure most clearly after the leaves open and start to fall off. If you don’t dead-head, and the flower is pollinated, the ovary will grow into a nice big seed pod. You can remove it once the stem turns brown, and dry it in a paper bag over winter (let it freeze).



The tulip’s center pistil has the ovary at its base will eventually become its seed pod, if fertilized.



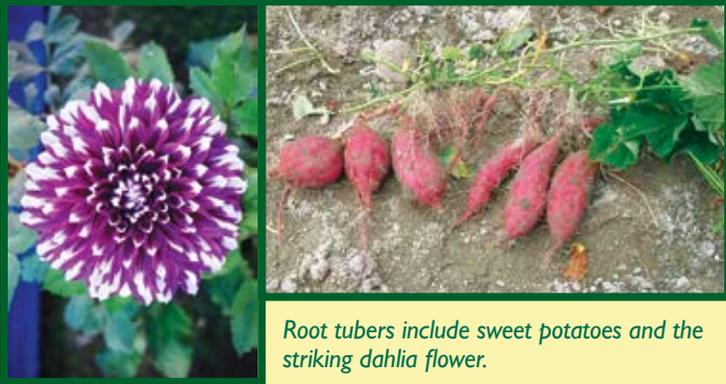
Tulips and daffodils are among the most recognizable spring flowers grown from true bulbs.

Tubers

There are two types of tubers: stem and root. The most well-known stem tuber is the potato. Most people are surprised to learn that potatoes are actually stems that grow underground. Root tubers look very similar to stem tubers. They only differ in that they grow on the root system. Both types of tubers can grow new shoots and roots using the energy stored inside the tuber. Examples of stem tubers include caladium, potatoes, yams, cyclamen and some begonias. Root tuber plants include dahlias, sweet potato, cassava, foxtail fern and some daylilies.



Stem tubers include regular potatoes and caladium plant.



Root tubers include sweet potatoes and the striking dahlia flower.

Rhizomes

Rhizomes are stems that grow along the surface of the ground or just below. They have roots growing from the bottom of the stem and leaves and flowers from the top or tip. Rhizomes can be cut from the parent plant and, as they already have roots and leaves, easily be transplanted. Because of this, they do not have a large amount of stored sugar and tend to be fibrous and hard. Examples of rhizomes include canna lilies, iris, ginger and bamboo.



Canna lily and rhizome
(Flower Photo:Wikicommons)



This potted Rabbit's Foot Fern has extensive surface rhizomes. So does the iris.

Corms

Corms look like bulbs but they are small, round, compressed stems. When cut in half they are solid, without layers of modified leaves. The corm disappears over the growing season as the stored sugars are absorbed. A new set of corms will be produced at the base of the plant before it goes dormant in winter. Examples of corms include grape hyacinth, crocus, crocosmia, gladiolas and tuberous begonias.



Corms have a solid center. Muscari (grape hyacinth) is a plant that forms corms.

Offsets

An offset is a small daughter plant that has sprouted from the base of the parent plant. Once the offset has grown a few roots they can easily be transplanted. Bromeliads, many succulents, hostas, astilbe and coneflowers all produce offsets. Like rhizomes, these plantlets don't have significant stored sugars as they use energy from the parent plant until they have grown enough roots and leaves to survive on their own.



Hostas with offsets

Planting Fall Bulbs

Now that you know what you are planting, here are a few tips for proper planting techniques for bulbs and how to protect them from pests.

- **Establish Roots Before Dormancy.** Many people misunderstand the purpose of planting bulbs in the fall. While they do need a cold dormancy period, they are planted in the fall so they have time to root and become established prior to going dormant. Waiting too far into fall before planting prevents bulbs from establishing before going dormant. If not established, the bulbs may not survive the winter. September is the ideal time to plant bulbs. They may even wake up and sprout leaves, as will your existing bulbs. This is normal as these leaves will produce the sugar needed to survive the winter and sprout in spring.

- **Heads Up!** Bulbs, like all plants, have heads and tails and they need to be planted right-side up. In order to determine the planting orientation, look at the bulb and find roots. They will be dried and fibrous but you can still tell that they are roots. Roots always grow from the bottom of the plant. Plant bulb with this side down.



Bulb roots, which may appear dried out, grow at the bottom.

- **Bury to Correct Depth.** The depth that you plant a fall bulb depends on the type and size of the bulb. True bulbs and corms should be planted deep enough to ensure that they will be insulated through the winter. This means 6" to 8" for large bulbs and 4" to 5" for small ones. The top of the bulb should not show above ground or it will freeze. Rhizomes and offsets should be planted to a depth that matches the soil surface level where it was previously growing. Try to maintain existing soil line.

Critter-Proofing Your Bulbs

Chipmunks, squirrels and other animals would love to find a sweet, juicy bulb for dinner or to store for winter. One fail-safe way to protect your bulbs is to cover the area with chicken wire or hardware cloth. Simply cut a piece to fit the size of your planting area and lay it over the top of the soil once you're done with planting and secure it. Cover the wire mesh with mulch or dried leaves which will also insulate and protect all the plants in the bed throughout the winter. The bulbs will come up through the holes in the mesh in the spring. Or, remove the mesh when the bulbs first break the surface.



Cover your bulbs, or they may become someone's dinner.

There are also repellents available in nurseries and many home remedies to try. Any repellent for deer or rabbits usually works for all mammals. Rock mulch is also a good deterrent for squirrels. If all else fails, try feeding the squirrels. While this sounds counter to reason, happy squirrels don't dig up your garden looking for food if food is readily available.

Squirrel-Proof Bulbs

If squirrels are a problem for you, try these bulbs which they typically pass over:

Daffodils

Snow Drops

Allium

Scilla

Glory of the Snow

Spanish Bluebells

"Tommy" Crocuses

Squill

Hyacinth

Muscari
(grape hyacinth)

Fritillaria



Squirrel resistant bulbs: Snowdrops (late February), a bed of Hyacinth and Daffodil (April), and Allium (May).

FALL PLANT SWAP

Saturday, September 22, 2018

If you have indoor plants and outdoor perennials that need a new home, bring them to the Annual Great Fall Perennial Plant Swap! You can also trade planters/pots (glazed ceramic only – no plastic or terracotta) and bare root bulbs can also be exchanged. Please check the website for NEW instructions (www.MonmouthCountyParks.com) or call Deep Cut Gardens (732-671-6050).



IT'S TIME TO....



October ✓

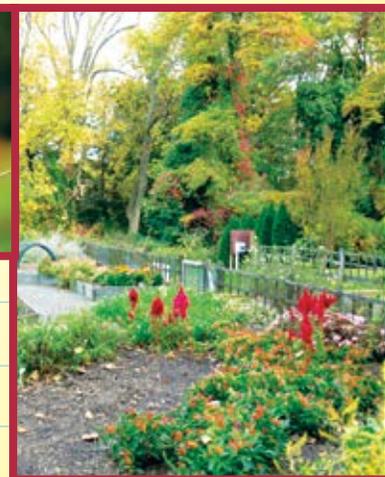
- Plant bulbs for next spring by the beginning of the month.
- Dig up corms and bulbs of begonia, caladium, calla and gladiola now to preserve them for next year. Dig up dahlia and canna after foliage is blackened by frost.
- Protect your last fruits in the garden from light frost with a Poly-spun frost cloth or a sheet.
- Water lawns, beds, shrubs and trees if needed to ensure they go into winter well hydrated.
- Place outdoor houseplants in partial shade to begin acclimating to indoor conditions.
- Spread grass seed, if needed, and apply low-nitrogen lawn fertilizer.
- Plant new trees and shrubs now so they can develop roots before the soil cools; mulch and water well.
- Switch planters to cool weather plants like pansies and ornamental cabbages for fall color.



Preparing for Winter: Deep Cut staff pull out the papyrus pond plants and move them into the greenhouse for winter.

November ✓

- Apply mulch or leaf mold to gardens after the first hard frost.
- Pot amaryllis bulbs every few weeks beginning mid-month for blooms through the winter.



Last blooms of the season. Pink cleome, a.k.a. spider flower. Bright red astilbe in the Display Garden.

December ✓

- Apply a winter mulch of shredded oak leaves around azaleas, rhododendrons, pieris and other acid-loving plants.
- Keep houseplants dust-free and fertilize at half-strength until active growth resumes.
- Feed the birds, especially when the ground is snow-covered, and provide fresh water.

2019 Annual Photography Contest

Theme: "The Cycle of Life"

Submission deadline is December 1, 2018. Visit the Deep Cut Gardens park page at www.MonmouthCountyParks.com for entry guidelines and forms.



2018 Photo Exhibition & Reception

CORNER

NATURE

Tokens & Tales Of Ancient Monmouth

Carmen Peterson, Park Naturalist

Paleontology is a young science, relatively speaking. Prehistoric organisms have been a source of curiosity for millennia, but it wasn't until the early 1800s that the study of fossils started becoming the discipline that it is today.



Shells in a box

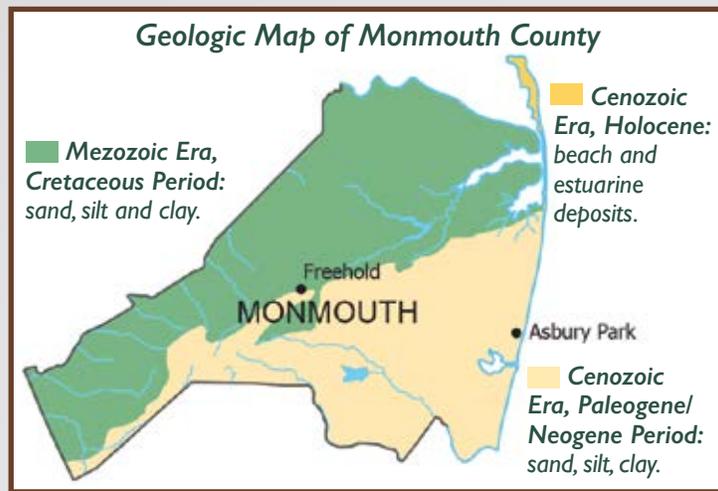
New Jersey holds a special place in the history of animal and plant fossils. Many local school-aged children can identify our state dinosaur, the *Hadrosaurus foulkii*. In 1858, the discovery of the skeleton of this duck-billed dinosaur from a marl pit in Haddonfield helped to propel forward the field of modern paleontology. Although it was only a partial skeleton, it was the most complete dinosaur skeleton discovered to date. Joseph Leidy, a natural history professor, carefully examined the bones and concluded that the *Hadrosaurus* was bipedal. This was a groundbreaking discovery since scientists had previously believed dinosaurs walked on four feet not two.



One interpretation of what the duck-billed hadrosaur might have looked like. Illustration: Wikicommons.

Embedded in the Earth

It is impossible to learn about fossils without considering the earth in which they were preserved. New Jersey's geology is very diverse. Older rock formed as far back as 1.2 billion years ago can be found to the north. Southward, the landscape dips gradually downward towards the sea and is geologically younger (14.5 to 5.3 million years ago).



Monmouth County is located within the Coastal Plain. The sediments here accumulated when oceans submerged much of the state. Repeating patterns in the rock layers indicate cycles of rising and falling sea levels. Deposits of the greenish gray mineral glauconite represent periods of flooding while sand and gravel indicate periods of ebbing oceans and shallower seas. It is within these layers of sediments that many marine and terrestrial animals were preserved.



Exposed strata from erosion along Big Brook.

We find fossils when the process of erosion in local streams such as Big Brook (pictured), the Ramanessin, and Shark River carve through the sedimentary formations laid down over tens of millions of years. The flowing waters carry away fine clays, silts and sands while leaving behind gravel bars composed of coarse pebbles, concretions and unearthed fossils.

Monmouth's Many Marine Fossils

Because of its geologic history, the remains of marine invertebrates are the most abundant fossils in Monmouth County, although remnants of other marine species have been found as well.

• Bivalves (clams, oysters, mussels scallops).

Extinct oysters belonging to the species *Exogyra costata* are among our most prevalent fossils. The rounded bottom shell, or valve, of an *Exogyra* is recognizable by its spiral tip and bumpy ridges and ribs. The flatter top shell acted like a lid. Like present day oysters, *Exogyra* were filter feeders, animals that strain food



Extinct oyster, *Exogyra* particles out of the water.

Frequently fossils found here include the genus *Pycnodonte*, another group of extinct oysters. Similar in size to the *Exogyra*, the exterior of *Pycnodonte* is smoother and the shells are often covered with small holes (made by the boring sponge *Cliona cretatica*).



The fireplace mantel in the Deep Cut Gardens Horticultural Center is embedded with *Pycnodonte* and *Exogyra* fossils.

Fossils of another extinct oyster, *Agerostrea*, often occur with *Exogyra* and *Pycnodonte*, but look very different. About an inch in length, their characteristic feature is the pointed ruffles along the shell's edges.



Agerostrea, another extinct oyster

• Cephalopods (squid, octopus, nautilus).

The translucent fossilized shell of the Belemnite, a squid-like cephalopod, has been the source of legends. It was once believed they were formed as the result of thunderbolts hitting the ground, but these amber "bullets" are actually just their internal shells.



Belemnites (note holes from boring sponge, top specimen). Photo: J. Lock



Ammonite fossil cast, on display at the Manasquan Reservoir Environmental Center.

Ammonites, extinct marine animals similar to the modern nautilus, were also common cephalopods fossils found here. They can have straight or coiled shells tentacles and a beaked mouth. Because of their diversity and prevalence, Ammonites can be used to date the strata to a particular geologic time.

While the benthic oysters existed on the ocean floor, the seas above them teemed with other life, such as fish and reptiles.

• **Sharks.** These are well represented in the local fossil record because of their ability to lose and renew their bony teeth (unlike the rest of a shark's skeleton, which is composed mostly of cartilage that does not fossilize well).



Shark tooth

• **Marine Reptiles.** Turtles, crocodiles, mosasaurs and plesiosaurs ruled the Cretaceous oceans feasting on a plethora of shelled creatures that populated the seas. Although rarer than the shelled mollusks and shark teeth, fossil hunters have discovered their teeth, vertebrae and other bones in Monmouth County.

Local marine sediments also contain dinosaur fossils, even though they were terrestrial. One explanation is that flowing water carried away bodies of land animals dying close to the coast or by a stream. Decomposers and scavengers in the water then fed upon the soft tissue, leaving hard bones to settle into the ocean bottom. *Hadrosaurus* and the carnivorous *Dryptosaurus* are coastal dwelling dinosaurs that have been found in Monmouth rock formations.

Large mammal and other marine creature fossils have also been found locally in younger sediments, including teeth and bones from rhinoceros, beavers, sloths and mastodons.

Pieces of the Puzzle

In 2012, amateur paleontologist Gregory Harpel noticed a large bone lying on a grassy embankment along a Monmouth County brook. Suspecting it was an animal fossil, he brought it to the New Jersey State Museum to be identified. David Parris, Curator, identified the bone fragment as half of the upper arm bone of a giant sea turtle.

Remarkably, the lower half of that same humerus had been discovered 162 years earlier and was being housed in the Academy of Natural Sciences at Drexel University. With the two halves of the humerus reunited, scientists were able to calculate that the sea turtle, *Atlantochelys mortoni*, had been massive, about 10 feet from head to tail, one of the largest sea turtles ever known.



Leg bone of cretaceous sea turtle, *Atlantochelys mortoni* (left), compared to that of a modern loggerhead turtle (right). NJ State Museum Display.

Like a puzzle missing most of its pieces, the fossil record is a very incomplete retelling of Earth's past. There is excitement and value in trying to decode the ancient past through fossils and sediments. Monmouth County's rich history extends well before the time humans inhabited it.

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