



GREEN HERITAGE

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

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FOREST FORENSICS

The act of separating yourself from the rest of the busy world by hiking one of the Park System's many wooded trails can offer more than just silence and solitude. If you look closely, you may spot some curious forest formations to marvel at along the way.

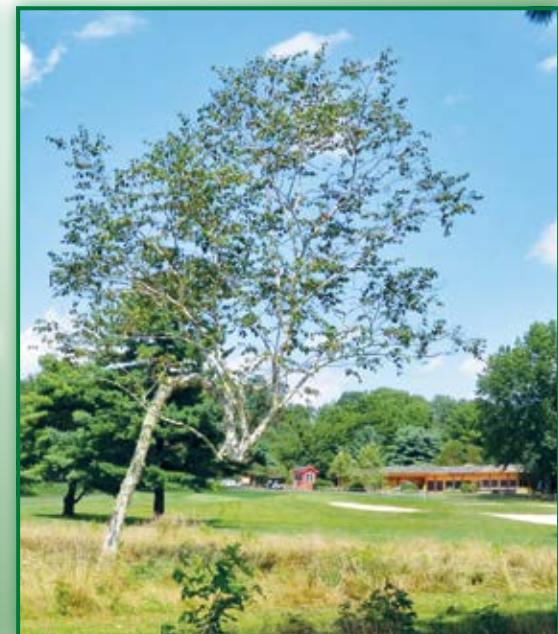
Here are some examples of unusual tree growths and scars from our photo archive taken in the Monmouth County parks and collected over time by ecologists, rangers and information staff. We affectionately call these the "Oddi-trees" in our files. While these trail-side tree sights may add some mystery to your experience in the woods, most can be explained by common natural events or weather, thanks to interpretation from our ecologists and the field guide, *Forest Forensics* by Ecologist Tom Wessels.

Curls, Elbows and "L's"

The downward drooping curve and curled up tip seen on this common horse chestnut for instance (right) is a natural growth feature of the species. This particular tree can be found along the main walkway approaching the Visitor Center at Thompson Park. (There's another with similar branch characteristics on the opposite side of the building for comparison.)

By contrast, the curved trunk of this white birch (lower right), seen near the golf center at Howell Park Golf Course, was caused by ice damage. The trunk of this tree was likely bent over one cold winter when the branch tips were heavily weighted down by ice or snow, and never recovered its normal shape. The branches eventually continued their upward growth from a new location, forming a sharp upward turn, or elbow.

Trees that have been completely bent down by the weight of ice, snow or other falling trees may survive when their lowest living limb actually replaces the trunk, and takes over growing upward to the forest canopy. These photos were taken in Hartshorne Woods Park and the Timolat Section of Huber Woods Park.



SAVE OUR TREES: DON'T TRANSFER FIREWOOD

Do you spend time in the forest for picnics or camping? If so, please DO NOT transport firewood from one area to another. Instead, use firewood from local sources (that is, purchase firewood at or near where you plan to burn it). This helps prevent the accidental transmission of harmful insect species currently threatening our forests, such as the emerald ash borer and southern pine beetle. For more info: www.dontmovefirewood.org.

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Shapes & Faces

Do you think that branch in Hartshorne Woods Park looks like the profile of a deer with antlers? Can you see an animal's face in the center of that old, up-ended tree trunk from Turkey Swamp Park? How about a face chewing a mouthful of leaves on Thompson Park property?



Nurse Stumps & Stilt Roots

When an old tree stump decays to the point of growing moss, it can germinate or "nurse" a new tree seedling; the moss acts as a seedbed and provides moisture. As the new tree grows on top of the rotting stump, its roots grow down into the center and around the sides, creating this stilt-like pattern. The stump eventually rots away, leaving this exposed and sometimes creepy-looking root pattern above the ground. (Hartshorne Woods Park, center, and Perrineville Lake Park, right.)



Fallen logs may also nurse new seedlings, and can explain how a row of trees could grow so evenly in the middle of the forest. This row (left) now sits like sentries "guarding" the newly installed boardwalk crossing in the Claypit Creek Section of Hartshorne Woods Park. If these did grow from a nurse log, it's long gone from view and didn't stick around long enough to create the dramatic kind of tell-tale stilt roots shown above.

Erosion Exposure

Trees that grow along wet areas have some special challenges, as rising and falling water levels or water movement may erode the stream bank and nearby soil, exposing the tree roots. The exposed roots of this tree along the Marsh Trail at Holmdel Park (left) look like an octopus, with one inky black eye, while a pair along the Manasquan River Greenway seem to be "holding hands."



As for the seemingly affectionate relationship between certain trees, here's one possible weather-related example. A growing beech tree (right) was drawn into the mound caused when the other tree was pulled over by a strong gust of wind—to help stabilize the space inside. If there's a large pattern of mounds and pits, caused when roots are completely ripped out, it can be used by someone with a trained eye to determine if the forest once experienced a strong storm or hurricane.



Diagnosing Tree Scars

With a recent lightning strike on this tree in Tatum Park(1), you can clearly see the black charring caused by the fire. But lightning does not always ignite; it may just cause a line crack in the tree, like the one in this tulip poplar behind the Visitor Center at Thompson Park(2). It is faint enough to be missed if you aren't looking for it, but the sound it made when struck was heard by everyone in the building (that's how we knew to look for it).

Compare the black streak caused by fire to that caused by bacterial wetwood or slime flux, a kind of tree infection caused by environmental stress, a wound or both(3). Later on, when enough time has passed and the tree has healed over, it may be difficult to tell what caused the scar. If we had to guess, this one looks like it was caused by a lightning strike(4).



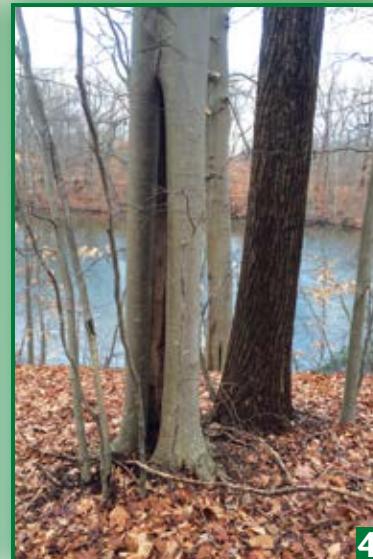
1



2



3



4

A Collection of Cairns

While it's impossible to know what was on the mind of the person (or people) who left these rock formations, we do know what they are called and that we've built them for a very long time. A cairn (from the Scottish-Gaelic *càrn*) is a pile of arranged stones. It can be a small, randomly assembled rock sculpture or a large, "engineered" masterpiece of interlocking pieces. Historically, cairns have been used throughout the world as monuments and markers for: burials, ceremonies, artistic/sculptural expression, defense/protection, to mark hidden/buried food or weapons, to give directions or as recreation (e.g. "Fred was here").

It can be a delightful surprise to come upon a pile of balanced rocks along the trails here in Monmouth County, like a friendly "hello" from the hikers who came before you.

The cairns shown here are made of natural materials, loosely positioned and therefore easily removable. They don't seem to indicate direction, but maybe they express someone's artistic impulse, mark a particularly beautiful spot on the trail, or even commemorate a special or spiritual experience. The mystery of a random cairn is part of its charm.

However, if everyone who visited the wilderness decided to build a cairn, there would be far too many, possibly unattractive collections disrupting the natural environment. This has certainly happened in some parks, where knocking down cairns has become part of the Rangers' unofficial to-do list (www.azcentral.com/story/news/local/best-reads/2015/10/23/cairns-stone-rock-stacks-sedona/32413703/). But so far, here in our own parks, they have been few and far between and will hopefully remain a rare and special occurrence.



Open Spaces, Livable Places News

“THE FORT”: Making A Great Facility Even Better

The History of Fort Monmouth

This former military site can trace its roots back to the establishment of a Signal Corps training facility and radio research and development laboratory at Camp Little Silver, later to be named Camp Alfred Vail in 1917. The new technologies of World War I, such as tanks and aircraft, required new wireless communications. Camp Vail was tasked with developing radio technology using numerous aircraft for testing, which required airfields and hangars. It was also the home to the Signal Corps Pigeon Breeding and Training Section, including several “hero” pigeons that survived the Great War. Post war, the Army’s Chief Signal Officer requested this site become the central Signal Corps School for officers and enlisted men.

This installation was granted permanent status and renamed Fort Monmouth in August 1925 in honor of the soldiers of the American Revolution who died in the battle of Monmouth Court House. Fort Monmouth was a major Signal Corps training site during World War II. The scientists of the Signal Corps laboratories developed, among many other things, the first U.S. aircraft detection radar. Personnel also proved space communications feasible in 1946 when the Diana Radar bounced electronic signals off the moon.

Then & Now

The Park System officially took control of the Fort's former youth center complex in March 2013 through a lease from the Fort Monmouth Economic Revitalization Authority (FMEA*). Staff made several site visits to assess the conditions and generally, the facility was well-kept. This site would be a much needed and long awaited opportunity for the Park System to expand its visitor services programs.

The Fort Monmouth Recreation Center is the Park System's first-ever indoor facility that was built specifically for this use, and now provides arts & crafts, cooking, sports, exercise classes, summer camps and special events. The convenient location serves one of the county's more densely populated areas. Plus, the pool complex, gym and kitchen also helped alleviate heavy program loads at the nearby Dorbrook Recreation Area in Colts Neck. The doors officially opened in August of 2013, and the primary focus has been the promotion of health and wellness of county residents.

* FMERA implements the Reuse and Redevelopment Plan for economic development, growth and planning, with a focus on technology-based industries, for the 1,126 acres of real estate at Fort Monmouth following the base closure in September 2011.



New walkways for accessibility and a welcoming entrance were among the Fort's many site improvements, an early project completed by fall 2014.



Pool renovations were among the earliest Fort infrastructure projects, completed by June 2014. There's no surprise that this is now one of this site's most popular features.



A stubbornly leaky, flat roof took some time to assess and repair.

Improvements Underway

Early on, the Park System committed funding to bring the facility up to current building codes and complete infrastructure upgrades.

While the facilities were in good shape in a general sense, the flat roof of the Recreation Center developed some leaks and the HVAC system needed repairs. Here's a summary of Fort improvements to date:

- Roof/HVAC upgrades and repairs (2013)
- Refurbish existing pool including resurfacing, new decking, repaired plumbing, pumps and electrical upgrades, and interior ADA accessibility (2014)
- Utility upgrades including new water, sewer, and electrical connections (2015)
- Walkway and ADA accessibility upgrades at Recreation Center (2014) and Pool Center (2015)
- Sport court installation, lighting and site circulation (2017)
- Landscape enhancements, including new trees and shrubs



Installing a new set of electrical lines was a labor-intensive job, from digging conduit trenches and running underground lines to installing interior and exterior boxes.

Utility upgrades for water, sewer and electrical services were required because of the unique way the site was developed. Basically, the Army was able to build what it wanted, where it wanted, with the most expeditious methods available because they were not required to follow the same procedures as a private entity, or the state or county. Also, there were few records or plans provided for the building and utilities, so there was a lack of certainty about their location and condition. As a result, the old utility systems (connected to the base) had to be abandoned, and new systems installed for municipal water and sewer service.



Multiple walkway and accessibility upgrades have been completed since the Fort's opening.

The first capital investment project was the pool facility renovation. This included refurbishing and upgrading the changing rooms for ADA compliance, and installing an ADA-compliant chair lift for pool access. Plumbing, pumps and electrical systems were upgraded and the pool was entirely resurfaced. The decking around the pool was demolished and redone, and large "funbrellas" for shade were installed. In total, the work created an essentially new pool facility.

"Hardscaping" around the Recreation Center was completed with two projects:

- New walkways helped dress up the front entrance area which was plain and not very welcoming. ADA improvements brought the facility entrances into compliance with current code.
- A deteriorated asphalt service drive in back was removed and replaced with a pedestrian paver plaza for outdoor activities. The old basketball/tennis court was removed and replaced with a large multi-sport court with space for basketball, pickle ball, soccer and more. A paver pad area was installed adjacent to the new court for large tents to be used for summer camps and special events. Lighting was replaced with more efficient LED lights, and solar lights were installed along the access.



Recent projects include this new sports court with an adjacent paver patio.

What's in the Fort's Future

The Park System recently purchased the former gas station next to the Recreation Center. This new land will be used for a maintenance and storage facility, and additional parking. The new property also includes a large wetland area that will be restored with walking paths and a boardwalk for outdoor education.

Further into the future, the Park System anticipates managing the large wetland complex to the south of the site, creating a much larger recreation area to expand natural resource management and outdoor education.

Deep Cut Gardens Home Gardener

152 Red Hill Road
Middletown, NJ 07748

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

EXPLORING DEEP CUT FROM THE GROUND UP

By Christine Menapace, Park Naturalist (Seasonal)

A key feature of Deep Cut Gardens is the charming terraced rockery that leads from the Horticultural Center atop the hill to the eye catching pergola (gazebo) that anchors the far end of the rose parterre. Built by Vito Genovese around 1935 and designed by landscape architect Theodore Stoudt of Lovett Nurseries, the cascading water pools shaded by sargent's weeping hemlock were an homage to the terraced water gardens of Genovese's Italian heritage.



More than 80 years later, while the plantings have grown and evolved, the hardscape rocks retain their natural beauty and organic form, growing only more interesting with time's patina. This is in large part due to the native peanut stone that was used extensively throughout Deep Cut Gardens. While many have heard about the

famed Italian lava stone imported for the rockery—seen bordering the pools—it's actually peanut stone that makes up the majority of the garden, including the miniature "Mount Vesuvius" specifically requested by Genovese, the tiered steps and walkway borders.



Here, There and Everywhere

Beyond the rockery, it is also peanut stone that lends its copper-colored warmth to the iconic 12-columned pergola, the low walls around the sunken rose parterre and surrounding the Asian Garden and greenhouse near the Gardener's Cottage. Peanut stone also makes up the greenhouse foundation. Today, the phlox, sedum and mosses that peek out from the rambling peanut stone walls add a rustic romanticism to Deep Cut's already bucolic atmosphere. Indeed, the graceful, undulating peanut stone wall that surrounds the property entrance along Red Hill Road sets a character-defining first impression of Deep Cut.



The rockery is built primarily of local peanut stone, a native bedrock to Monmouth County. The look of these rocks, a conglomerate of iron and quartz (peanuts), can vary. Some contain little or no quartz and look smooth, while others contain more giving the rock a bumpier, more variegated appearance.





What is Peanut Stone?

Peanut stone is a sandstone conglomerate of quartz and other pebbles (resembling peanuts) embedded into iron oxide rock that is uniquely native to Monmouth County, and parts of NJ. As a local natural resource, peanut stone was used in early Monmouth County buildings and walls. "It's still evident in a good many 18th and 19th century buildings today," comments Gail L. Hunton, Chief of Acquisition & Design at the Park System. Not a first class construction material, it was primarily used for foundations, low walls and pillars; but on rare occasions, an entire building facade of peanut stone was used to noteworthy effect.



While the peanut stone walls and hardscape at Deep Cut were built by Caruso Construction of Atlantic Highlands in 1935, much of the construction with this distinctive fieldstone seems to date from the late 1800s into the Arts and Crafts era of the 1920s. Thus, peanut stone, with its unique appearance and aging beauty, has become a sort of calling card for historic buildings in Monmouth County. In some cases, peanut stone pillars mark roads and drives long gone, yet still they stand as sentinels of both our history and our connection to Monmouth's native materials.

Local Geology of Peanut Stone

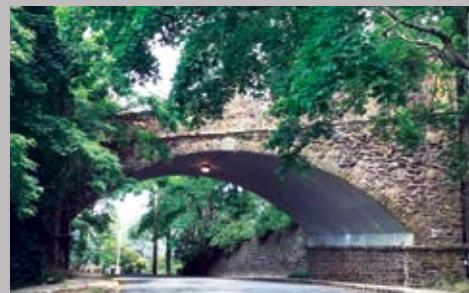
"People in the 19th century tended to know their rocks," comments Hunton. "Histories written back then commonly began with a description of geology and soils." A case in point, Franklin Ellis' *History of Monmouth County*, written in 1885, discusses the Cretaceous Formation and reads, "...at a few detached points... the mineral of the strata has been cemented, by oxide of iron, into a kind of sandstone or conglomerate. They appear to have lain undisturbed ever since their deposition from the ocean."

Thus, the formation of peanut stone took place 11 million years ago in the inner Coastal Plain. This "erosion-resistant gravel of iron-cemented sediment underlie upland areas and isolated hills, such as the Atlantic Highlands and Telegraph Hill," according to the Department of Environmental Protection's 2016 NJ Geological and Water Survey. It continues, "Upland areas in this region are thinly draped with till, an unsorted mixture of sand, clay and boulders deposited directly from the [last] glacier." As one of the most recent geological deposits, one can run across large hunks of peanut stone to this day scattered among some Park System trails, particularly in Huber Woods, Middletown, and Hartshorne Woods, Highlands.



Peanut stone rocks are abundant along the Laurel Ridge Trail at Hartshorne Woods Park. Large boulders can also be found embedded in the slopes along the Henry Hudson Trail's Popamora Point section in Highlands.

With a great amount of peanut stone deposited in the hills of Atlantic Highlands, it's no wonder that the historic town and the areas surrounding it once served as the epicenter of peanut stone construction. The wall welcoming you to Highlands on



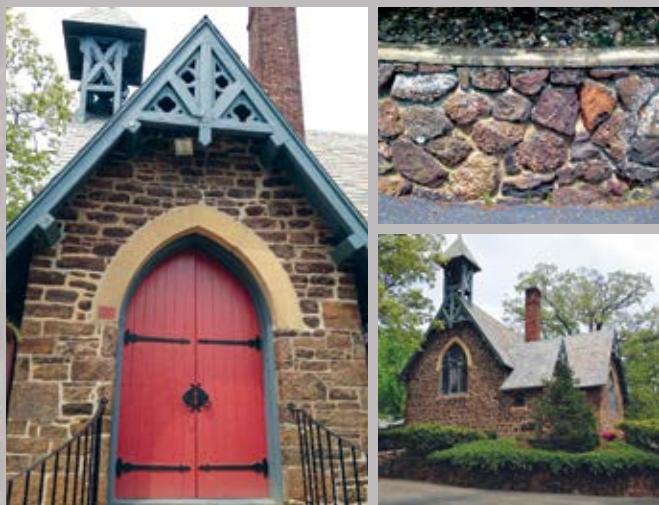
Route 36 is peanut stone, as is the picturesque "Old Stone Bridge," built in 1896, over Grand Avenue. Nearby, in the Leonardo section of Middletown, the abandoned

"Dempsey House," built in 1923, is clad completely in peanut stone surrounded by a peanut stone fence. It was once a pump station to generate well water for the area.

Continued next page...

Peanut Stone Put to Beautiful Use

Perhaps one of the most well known installations of peanut stone, however, is the gorgeous All Saints' Memorial Church on Navesink Avenue in Atlantic Highlands, built in 1863 and now a designated National Historic Landmark (shown from the front and side, note also the stone wall). It was designed by the renowned architecture firm of Richard M. Upjohn and his father, Richard Upjohn, who were famous for their English Gothic Revival style. In fact, the senior Upjohn also designed the famed Trinity Church on Wall Street in New York City.



Known locally as "The Stone Church," the property includes a Parish House and Rectory also with facades made entirely of peanut stone. "The Stone Church is very unique in that the architect purposefully used the native stone, instead of a 'high style' stone, in his Gothic rendition of an English country church," comments Hunton.

The result was a pastoral masterpiece whose aesthetic has stood the test of time. A September 1879 issue of "Harper's New Monthly Magazine," stated, "...a pleasant surprise awaited us, a turn in the road bringing us in sight of an exquisite little English Gothic Church, looking as if some genii had borne it over the sea and dropped it on the sunny side of the hill, built of the warm-tinted beccia or puddingstone of the Highlands."

The "Old Stone Church" may be among the most prominent local examples of peanut stone use, but many residential properties also proudly use this material in fireplaces, driveway markers, hardscapes and more. Whether it's an 11 million year old rock studded with round pebbles found on the hiking trail or a 1920s retaining wall straight out of a storybook, peanut stone is a beautiful and literal touchstone to Monmouth County history.

CAN YOU STILL BUILD WITH PEANUT STONE TODAY?



Recent peanut stone projects in the parks include the front signs at Mt. Mitchell and Seven Presidents skateplex, as well as repairs to the arbor trellis at Mt. Mitchell.

Yes, but for a price. "Right now we have a pretty good supply, but it comes and goes," says Jeff Woehr, manager of building stone for NJ Gravel & Sand Co. of Wall. "Nowadays we get it out of various quarries when we come upon it. But we don't refine it. It's a very raw form. You need an installer who's willing to split and cut it for you. It's swinging a sledge hammer all day. That's how it used to be in the old days. I imagine that's why it's not used a lot."



However, it is still available for repairs of historic sites or even for new construction with a historic aesthetic. At All Saints Memorial Church in Atlantic Highlands, James S. Black of Locust Builders, Rumson, does the repair work. Woehr mentions a county bridge built in 1994 by the old gristmill in the historic district of Tinton Falls. "That's an example of a modern day use."

Woehr points out that while the stone found in the Atlantic Highlands area is "pretty hard stone," the farther south in NJ, the more crumbly it gets with less of the distinctive pebbles, or "peanuts." "The Pine Barrens around Batsto is full of it, but they don't even call it peanut stone there. It's just ironstone," he says.

IT'S TIME TO....

October ✓

- Lift (take out of the ground) corms and bulbs of begonia, caladium, calla and gladiola now to preserve them for next year. Lift dahlia and canna after foliage is blackened by frost.
- Clean up gardens. Discard foliage of any disease-prone perennials, but leave some disease-free specimens for winter interest and seeds for the birds.
- 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 only if needed to ensure they go into winter well hydrated.
- Apply compost or composted manure over beds to improve soil and plant vigor next season.
- Place outdoor houseplants in partial shade to begin acclimating to indoor conditions. Clean thoroughly before bringing indoors.



Planting in October

- Plant grass seed until mid-month. Apply low-nitrogen lawn fertilizer.
- Plant new trees and shrubs now so they can develop roots before the soil cools; mulch and water well.
- Plant garlic cloves about 4-6" apart in a rich sandy loam.
- Plant pansies and ornamental cabbages for fall color.
- Plant bulbs for next spring.

You don't have to be a gardener to appreciate a garden.

November ✓

- Apply mulch or leaf mold to gardens after the first hard frost.
- Turn your compost pile after frost hits to deter over-wintering rodents.
- Clean and store tools until spring. Store fertilizers and other materials where granulars will stay dry and liquids frost-free.
- Pot amaryllis bulbs every few weeks beginning mid-month for blooms through the winter.
- Bring your family to Deep Cut to catch the final fall colors and blooms.



The crisp lighting of autumn.

December ✓

- Apply a winter mulch of shredded oak leaves around azaleas, rhododendrons, pieris and other acid-loving plants.
- Ventilate cold frames when the weather is mild.
- 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.



Bright red of December.



The Great Fall Perennial Plant Swap

Saturday, September 23

Plant intake 8:30-10 a.m.; plant selection and check-out 10-11:30 a.m.

Here's a chance to spruce up your perennial and houseplant collection. Bring perennials in one-quart, one-gallon, or two-gallon containers and take home the same size and number of plants. Please label all plants. Houseplants may also be exchanged, but no annuals or invasives please. Call 732-671-6050 for more information. FREE!

Atlantic Brant Population on the Decline...Again

By Joe Reynolds, Senior Park Naturalist

Every autumn, one of coastal Monmouth County's smallest geese returns to our area. Atlantic brant (*Branta bernicla hrota*) will spend the winter resting and feeding in our chilly, local waters. Brant return, as they always do, after a demanding breeding season up north in the coastal tundra of the high Arctic on Baffin Island, Southampton, and on other islands west of northern Hudson Bay.



Source: www.ducks.org

Getting to Know Atlantic Brant

Different from Canada geese that are found year-round in our lakes, reservoirs, suburban parks and golf courses, brant are cold-weather, water birds typically seen only from October through May. They are "bay geese" that will gather in Sandy Hook or Raritan Bay; the Navesink River; Shark River or Manasquan River; and other nearby brackish areas. They may be found swimming and foraging for sea lettuce, a bright green algae and occasionally, they may pick up pebbles on grassy areas to help digest food in their gizzard.



The brant's name comes from the Germanic Old Norse word "brandgás," meaning "burnt goose," which refers to its blackish-gray appearance, although it has white feathers underneath and in a tiny "chain" around its neck.

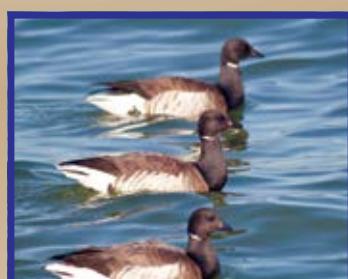
According to a 2016 report by the US Fish and Wildlife Service, our brant are part of a population of 157,900 that overwinter in large flocks along the Atlantic Coast from Massachusetts to North Carolina. Locally, NJ Fish & Wildlife tell us that 70% of wintering brant can be found in NJ, with the second largest population on the south shore of Long Island. Located midpoint along their range, coastal Monmouth County is a critical overwintering location for many tired and hungry brant.



Brant in flight. These small geese have a rapid wing beat, like that of a duck.



A flock of brant in the water, at a distance. (The older term "gaggle" is also still in use, but usually refers to a group of domestic geese on the ground.)



Compare the brant (left) to the more common Canada goose (right). The brant is smaller 22-30" with a short neck, and thin white necklace. The Canada goose is larger 22-45" with a pronounced white chin streak.

Brant Numbers in Slow Decline

Over the last several years, wildlife biologists have noticed signs of stress in this bird's way of life. The Atlantic brant population has been fluctuating and is in slow decline. Between 2002 and 2016, the population decreased approximately 13%. There are fewer young birds in the population during winter surveys of brant in the Mid-Atlantic. The lack of young birds suggests something could be going wrong for nesting brant on their Arctic breeding grounds. But what?

Scientists at the University of Delaware suggest it might have to do with competition from other geese for space and food. Investigations began in 1979 when Ken Abraham, a waterfowl biologist and professor at Trent University in Ontario, first set up camp in the wet tundra of the high Arctic. The first year, he observed 455 brant nests.



A juvenile, first year brant seen in the Navesink River.

wildlife scientists suggest that two other geese species could be negatively impacting the brants' nesting success.

Competitor & Predator Stress

Populations of snow geese and cackling geese have rapidly increased in the last 20 years due to lack of natural predators in some areas of North America and improved food supply from forested land being converted to agriculture/grassland. These two geese species are gradually pushing brant to the margins.

They arrive to the same Arctic nesting sites before the brant and eat the existing vegetation, leaving less nutritious plant food for nest initiation, egg laying or individual health. They also seem to be actively pushing brant off preferred coastal nesting sites, leading to reduced nest commencement and fledging rates.



Competitors. Snow goose (photo:Andy Reago & Chrissy McCiarren, Wikicommons) and cackling goose (almost identical to the Canada goose, just smaller. Photo:Wikicommons) compete with brant for food and nesting sites.



Scientists at the University of Delaware suggest that when brant are forced to nest farther away from the water in lower quality sites due to competition, they are vulnerable to predators. Arctic foxes, herring gulls and parasitic jaegers prey on their nests during incubation or when adults leave the nests to forage. Predators are potentially drawn to nesting areas because of high density of snow and cackling geese, and brant may be suffering secondarily as a result.



Predators. Arctic fox making off with nest eggs. Photo: University of Delaware.

These scientists go on to report that foxes were the largest threat to the brant, taking a number of eggs from nests. Using time-lapse and motion-sensing cameras, the crew found that out of the 42 failed brant nests,

they were able to pinpoint what caused the failure for 28 of the nests: 23 failed due to fox predation.

A Repeating Pattern of Decline

In the early 1930s, brant experienced a severe population decline when a disease wiped out nearly all the Atlantic Coast eelgrass, which made up about 80% of their diet. They slowly rebounded by switching to sea lettuce and other marine algae, which had always been part of their diet, but in smaller quantities.

Then a severe cold snap in the early 1970s caused the population to decline dramatically again. Ice and snow covered breeding sites into late July, resulting in almost complete nest failure for several years. The estimated population of 200,000 in the late 1960s dropped to 73,000 by 1972, and further to about 40,000 by 1973. Furthermore, in 1971 surveys revealed that 7% of the wintering brant population was made up of young birds. This figure dropped to <1% the following year, indicating almost no nesting success.

This data seems similar to current findings. While Science Daily reported in April 28, 2016, that Atlantic brant had better nest success in 2015 (17%) vs. 2014 (6%), this still may not be enough to rebound the population. US Fish & Wildlife also reports that "juveniles made up 9.2% of the population in 2015. For the past 4 years, the percentage of juveniles has been below 10% and well below the long-term average of 18%."

Will the brant be able to again adapt to changing conditions and competition to recover as they have in the past? Only time will tell what the future holds for this unusual black-gray goose that winters along coastal Monmouth County, but summers near the North Pole.

References: Bryant, Nelson. OUTDOORS: GOOSE OF THE SEA. The New York Times, New York, Published: September 20, 1981. UDaily newsletter, University of Delaware. January 26, 2015. Waning numbers: UD researchers study Arctic nesting sites of Atlantic brant geese, Newark, DE. University of Delaware. "Goose camp: Tracking troubled birds." ScienceDaily. ScienceDaily website, 28 April 2016. U.S. Fish and Wildlife Service. 2016. Waterfowl population status, 2016. U.S. Department of the Interior, Washington, D.C. USA.



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PARK SYSTEM

Fairies or Forensics

It's no wonder some people think our forests are full of fairies. How else could this branch have been so perfectly placed between two trees as a chin-up bar? (So the fairies could get some exercise, of course.)



More unusual forest sights explained, inside...along with an update on renovations at Fort Monmouth, a primer on peanut stone, and some news about the Atlantic brant.



Visit www.MonmouthCountyParks.com