MONMOUTH COUNTY PARK SYSTEM
GREEN HERITAGE
The Newsletter of Monmouth County's Open Space, Parks & Recreation Agency *Vol. 59 No. 3 Fall 2025*

MORE THAN A FAIR: 50 Years Of The Monmouth County Fair

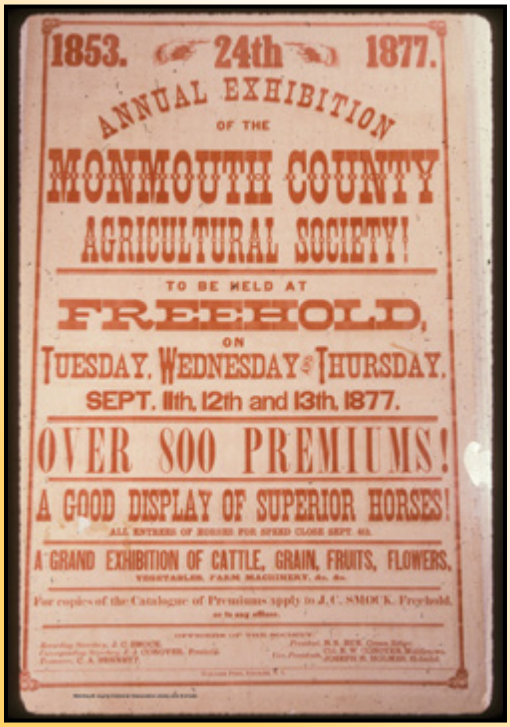
Zack Karvelas, Assistant Public Information Officer

It's just a county fair…right? Wrong! It's THE Monmouth County Fair.

Not Just Any County Fair

It's easy to dismiss a county fair as fried food, carnival rides, and a petting zoo. But the Monmouth County Fair has always been more than that. This year marked its 50th anniversary at the East Freehold Showgrounds, a milestone celebration that honored generations of tradition while welcoming nearly 98,000 visitors across five days. With record-breaking attendance, thrilling performances, and heritage exhibits, the 2025 Fair proved once again why it remains one of New Jersey's premier summer events.

The golden anniversary also launched the MonmouthNJ 250 countdown, a two-year lead-up to America's 250th birthday in 2026. Opening Night featured a special ceremony connecting Monmouth County's revolutionary past to its modern-day community spirit. It was a reminder that this fair is rooted not just in entertainment, but in history, pride, and the enduring traditions that bind people together.



A Century and a Half of Tradition

Although the modern Fair was established in 1975, its story stretches back more than 150 years. Archival records from the Monmouth County Historical Association show that in 1877, the Monmouth County Agricultural Society held its 24th Annual Exhibition at Freehold Raceway. For three days each September, attendees marveled at livestock, crops, fruits, flowers, and "superior horses." More than 800 premiums were awarded for winning entries, underscoring the importance of agriculture to the region's identity.

By 1888, the Monmouth Fair Association took over, expanding the scope of exhibits. Alongside prize-winning cabbages, melons, and beans, fairgoers could admire exotic birds, browse household arts, and even purchase "fur-bearing pets" such as squirrels and monkeys. Entertainment had become a mainstay as well, with balloon ascensions, horse races, and live music sharing equal billing with agriculture.

Moves to the Shore

In 1908, the Fair relocated to Parker Farm in Red Bank, transforming into a spectacle that mixed tradition with new amusements. Horse trotting events, automobile "meets," and football and baseball games added to the usual lineup of farm exhibits. Just a few years later, it moved again to Middletown, where 62 acres of dedicated fairgrounds included racetracks, sports fields, exhibition halls, and barns.

Continues next page...

Posters from 1914 reveal just how ambitious the Fair had become, depicting sweeping aerial views of the grounds, grandstands, and massive pavilions. While visitors of that era dressed more formally, the activities would look familiar to today's crowds. This coastal chapter lasted about a dozen years before fading in the 1920s. The fairgrounds were eventually sold, though smaller fairs sponsored by churches and firehouses kept the spirit alive through food booths, dancing, and games.


Aerial view of fairgrounds August 1992.


Aerial view of Fairgrounds 2021.

Postwar Revival

After World War II, the Monmouth County 4-H brought the Fair back in 1947, holding it first at Freehold High School before moving it to Freehold Racetrack in 1949. By the 1950s and '60s, the Fair had grown into a lively mix of agricultural competition and community fun. 4-H youth clubs showcased animals, garden exhibits, clothing, and food contests. Talent shows, public service demonstrations, and even seeing-eye dog exhibitions drew crowds. Longtime residents still recall rides inside the racetrack infield, cotton candy stands, dunk tanks, and the simple joy of summer nights under the tents.

A Permanent Home in Freehold


COME TO THE FAIR - Bob Cain, director of the Monmouth County third Annual Fair, and his daughter Kristin await the rides, entertainment and displays which will spring into full force on August 3, 4, and 7, at East Freehold Park Showgrounds. Inside booth space still available. For information call the Monmouth County Park System.
June 22, 1977 The ADviser

The Fair as we know it today was born in 1975, when the Monmouth County Park System partnered with 4-H to secure a permanent home at the East Freehold Showgrounds. The Park System had acquired the site in 1970 as part of a larger land purchase on Kozloski Road. With 61 acres available, staff quickly recognized it as an ideal location for a countywide celebration.

That first July 4th weekend attracted 9,000 visitors with animal exhibitions, competitions, and entertainment. Tom Kellers, then Director of Visitor Services, served as the first Fair Chair, followed by Bob Cain, who earned the nickname "father of the fair." Since then, rotating the role of Fair Chair among staff has become a Park System tradition.


Fair Chair Frank Masini (right) with Deputy Director Beau Byrtus (left)

In reflecting on this year's milestone, Fair Chair Frank Masini said, "We just like to keep things fresh… We started as a small little community outing in 1975 and since then we've continued to grow. I'd say there's a lot of legacy and generational memories that are made here."

The Golden Anniversary Celebration

The 2025 Fair lived up to its legacy with five days of nonstop excitement. Agriculture remained at the heart of the event, from 4-H animal exhibits and the FFA Alumni Farm Stand to the Home and Garden competitions. Visitors browsed Jersey Fresh produce, admired hand-loomed textiles, and watched demonstrations in woodturning, pottery, and basket weaving. The Living History Tent brought the past to life with lacemaking, rug braiding, and period music.

Entertainment was equally robust. Nicole Atkins wowed audiences with her soulful vocals, Mission Dance Band kept the crowds moving, Yellow Brick Road delivered a dazzling Elton John tribute, and Rockit Academy and Jackson Pines highlighted local talent. Opening Night fireworks lit the sky in spectacular fashion.

Returning favorites like Robinson's Racing Pigs and Mutts Gone Nuts delighted longtime fans, while new acts such as DAWG Wrestling and Tommie Turvey's stunt horses and dogs drew cheers. Competitions like pie- and corn-eating contests, the Wacky Quacky Duck Derby, and dance parties kept the fairgrounds buzzing.

Special attractions included tethered hot air balloon rides, Touch-A-Truck experiences for kids, and a County Services Tent where residents engaged with programs ranging from elections to law enforcement.

The Fair also honored service members with free admission for veterans and active military all week, along with discounts for seniors and students.

Looking Back, Moving Forward

Commissioner Director Thomas A. Arnone called the Fair "one of the premier events of the summer" and praised its role in celebrating community. Commissioner Ross F. Licitra, Park System liaison, emphasized how the Fair continues to honor both heritage and growth.

Adding to the sense of history was the MonmouthNJ 250 kickoff. The traveling exhibit and community activities tied the county's Revolutionary War past to its present, as residents penned "Postcards to the Future" and reflected on Monmouth County's enduring contributions to America's story.

Fifty years in, the Monmouth County Fair remains a place where history, heritage, and fun converge. From its agricultural roots in the 19th century to its record-setting crowds in 2025, the Fair has always been more than a summer event. It is a living tradition that continues to grow, adapt, and inspire — a landmark celebration of Monmouth County's past, present, and future.

Mud football, 1986

Tot Trot, July 1986

Hot air balloons, July 1996

Municipal Parks And Open Space Continue To Improve With County Grant Support

Paul Gleitz, P.P. AICP, Principal Park Planner

In 2023, the Board of County Commissioners revised the Municipal Open Space Grant Program and split it into two programs: Monmouth County Municipal Park Improvement Grant Program for parks and open space development projects and a new shared services program for municipal open space acquisitions.

The Monmouth County Municipal Park Improvement Grant Program assists municipalities by providing funding needed to make park improvements in municipal parks and open space. It's funded at $6 million a year and up to $500,000 per project.

The Monmouth County Board of Commissioners has awarded $6,488,000 in park improvement grant funds to 21 different municipalities in the County through the 2024 round of the Municipal Park Improvement Grant Program. The program continues to demonstrate the County Commissioners' support of local parks and recreation projects throughout the County.

There was a total of 32 applications received requesting an aggregate total of $9,829,000. Another $6 million in grant funds, combined with $488,000 of reprogramed grant funds, allowed the county to award a total of $6,488,000 million in grant funding.

The municipalities awarded funding through the 2023 grant round included:

TOWN	PROJECT	AWARD
Millstone	Millstone Park Improvements - Phase III	$475,000
Union Beach	Scholer Park - Phase X	$300,000
Little Silver	Sickles Park Inclusive Playground	$399,000
Tinton Falls	Walz Park Improvements	$475,000
Oceanport	Maria Gata Park Improvements - Phase IV	$475,000
Allenhurst	Lake Drive Park Improvements	$400,000
Lake Como	Behrman Park Improvements - Phase II	$130,000
Brielle	Brielle Park Improvements	$150,000
Spring Lake Heights	Joseph E. Robertson Park Pickleball Courts	$100,000
Neptune Township	Improvements to Loffredo Fields - Phase II	$358,000
Marlboro	Tennent Road Walking Trail	$215,000
Eatontown	Fresh Start 80 Acres Park - Phase II	$150,000
Hazlet	Recreation Building w/ Multipurpose Courts	$475,000
West Long Branch	Valenzano Park Improvements	$150,000
Holmdel	Light Structure for Sports Courts	$175,000
Highlands	Frank Hall Park Improvements	$86,000
Red Bank	Marine Park Improvements	$475,000
Keansburg	Collins Field Improvements	$75,000
Aberdeen	Fireman's Park Improvements	$475,000
Freehold Borough	Freehold Park Improvements	$475,000
Long Branch	City Hall Park Improvements	$475,000
TOTAL		**$6,488,000**

Since the inception of the program, 51 of Monmouth County's 53 municipalities have been awarded $60.4 million for local parks and acquisition projects. As of the 2024 grant round, 343 grants have been awarded with $32 million having been paid to the municipalities in reimbursements for successful projects.

Land Preservation Around The County

The Monmouth County Municipal Land Preservation Incentive Program assists municipalities by providing additional funding needed to preserve land. These cooperative projects with the Board of Recreation Commissioners and County Commissioners have proven to be very effective, helping towns purchase important open space with significant additional funding that they would not have been able to purchase without County assistance.

Over the past year, the new Incentive Program has preserved seven significant properties in communities throughout the County.

The seven successful projects have preserved 231 acres of land with a total value of more than $26 million. The County has provided $16 million toward these acquisition projects, funding more than 60% of the purchase price. This funding allows the municipalities to leverage NJDEP Green Acres funding, when available, and reduce the impact on municipal budgets while committing to the preservation of locally important open space.

Town	Project	Total Price	Green Acres Share	County Share	Municipal Share
Marlboro	American Dream	$750,250	$333,750	$312,500	$104,000
Colts Neck	Maida Farm	$2,350,000	$1,175,000	$881,250	$293,750
Millstone	Lee Farm	$2,600,000	$790,193	$655,000	$654,807
Fair Haven	Spagnuolo	$1,790,000	$447,500	$1,006,875	$335,625
Holmdel	Crawfords Hill & Horn Antenna	$5,500,000	$0	$3,562,500	$1,187,500
Monmouth Beach	11 Robins Street	$1,500,000	$375,000	$843,750	$281,250
Middletown	Mater Dei Campus	$11,750,000	$0	$8,812,500	$2,937,500
	TOTAL	**$26,240,250**	**$3,121,443**	**$16,074,375**	**$5,794,432**

Program project highlights include:

- **Marlboro - American Dream** – 15.8 acres of forested hills connecting existing municipal and county open space.
- **Colts Neck - Maida Farm** – 28.8 acres of farmland that doubles the size of Five Point Park allowing for development of additional recreation amenities.
- **Millstone - Lee Farm** – 125.3 acres of farm fields and woodlands adjacent to Millstone Park with plans for hiking and equestrian trails.
- **Fair Haven - Spagnuolo** – 0.75 acres adjacent to existing open space, adding waterfront access to the Navesink River.
- **Holmdel - Crawfords Hill & Horn Antenna** – 35 acres, including the highest point in Monmouth County and the National Historic Landmark Horn Antenna. The Horn Antenna was used to detect the cosmic microwave background radiation, providing evidence of the Big Bang, which earned physicists Arno Penzias and Robert Wilson a Nobel Prize in Physics in 1978. The Horn Antenna is a designated National Historic Landmark in the National Register of Historic Places and is listed on the New Jersey Register of Historic Places.
- **Monmouth Beach - 11 Robins Street** – 0.34 acres for a memorial park to honor local veterans and first responders as well as serving as a gathering space Memorial Day, Veteran's Day, Flag Day, the Fourth of July, and other municipal events.
- **Middletown - Mater Dei Campus** – 25 acres, allowing Middletown to acquire existing recreational facilities (updated track and field complex, baseball/softball diamonds, and multi-sport fields) and expand recreation program services in the most populated township in the county. Long-term plans include construction of indoor recreation facilities.

Both the Monmouth County Municipal Park Improvement Grant Program and Monmouth County Municipal Land Preservation Incentive Program are administered by the Monmouth County Park System on behalf of the Board of County Commissioners.

Notable Devlopment Projects Completed This Year

Bradley Beach – Lake Terrace Park (2021 grant of $70,000): Construction and installation of an ADA inclusive playground with rubberized play surface, ADA pathways, fencing, and landscaping.

Bradley Beach

Shrewsbury Borough – Robert Graham Athletic Fields Playground (2022 grant of $100,000): Installation of a new playground with inclusionary features.

Shrewsbury Boro

Hazlet Township – Freedom Park/North Hazlet Community Park (2021 grant of $250,000): Construction of a perimeter trail, a new playground with rubberized play surface, a multi-sport play court, a basketball court, picnic tables and benches with shade structures, a large pavilion, a security system, a WiFi hot spot, upgraded parking, trees/landscaping, and trash receptacles.

Hazlet

Interlaken Borough – Interlaken Park (2020 grant of $175,000): Installation of a tot lot playground, shade pavilion, perimeter path, a fitness station, benches surrounded by a flower garden, striping for existing pickle ball court, picnic tables and trash receptacles, drinking fountains, and construction of steps and a kayak launch to increase access to Deal Lake.

Interlaken

Sea Girt Borough – Edgemere Park (2020 grant of $20,000): Installation of three rail post and rail fence with wire and the planting of native plant material to create a native plant garden.

Sea Girt

Deep Cut Gardens
Home Gardener
152 Red Hill Road
Middletown, NJ 07748

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

Meet the Gourd Family (*Cucurbitaceae*)

Kate Lepis, Ph.D., Horticulturist

As the growing season starts to wind down let's spend a little time getting to know a family that is a true work horse in the vegetable garden. The Gourd Family (*Cucurbitaceae*) includes harvests like cucumber (*Cucumis sativus*), melon (*Cucumis melo*), gourds (*Cucurbita pepo, Lagenaria siceraria or Luffa sp.*), pumpkin (*Cucurbita pepo*), squash (*Curcurbita pepo or C. maxima*), watermelon (*Citrullus lanatus*), and zucchini (*Cucurbita pepo*).

Cucumber[1]

Cantaloupe[1]

Pumpkin 'Blue Prince'

Based on the fossil record, the Gourd Family originated in Asia in the late Cretaceous (100.5 – 66 million years ago).[2,3] This was a point in time when dinosaurs and gymnosperms (cone-bearing plants) ruled the world. Like other angiosperms (flowering plants), they were able to spread and diversify after much of the competition was wiped out with the fifth mass extinction event. Most *Cucurbitaceae* are native to tropical regions across the globe, but some genera are native to temperate climates.[3] New Jersey has two native species: oneseed bur cucumber and wild cucumber.[4]

*Oneseed bur cucumber (*Sicyos angulatus*) has small spiny fruit – careful of the spines, they can be painful.*[1,5]

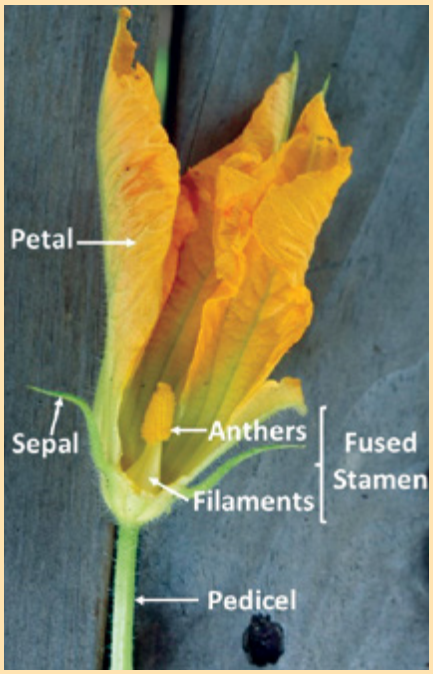
*Wild cucumber (*Echinocystis lobata*) has larger spiny fruit (not troublesome) and the plant itself is hairless.*[1,5]

Like all relatives, the family members of *Cucurbitaceae* share characteristics.[6] They grow as vines with leaves that are palmately veined and/or lobed with a coiling tendril emerging from the base of the petiole at a 90° angle.

Pumpkin leaf with veins that diverge like fingers on a hand = palmate.

Flowers in this family are unisexual – either male or female. Female flowers are larger and composed of three pistils (ovary, style, and stigma) that are fused together into one structure. The ovary is described as inferior as all the other floral parts (sepals, petals, and stamen) emerge above it. Similarly, in male flowers the parts (anthers and filaments) are also fused.

Female flower of watermelon showing the inferior ovary.[1]



Dissected male pumpkin flower, labeled.

The Gourd Family produces several types of fruit. New Jersey gardeners typically harvest berries and pepos from their cucurbid plants. Pepos are the fruit type most associated with this family. Other relatives produce fruit that are described as capsules and samaras (rare and not commonly seen in this area).

Yellow summer squash growing at Deep Cut with floral parts still attached

What is the Difference Between Summer and Winter Squash?

Several species and countless varieties make up the world of summer and winter squash. The summer type usually refers to straight or crooked neck yellow squash that can be interchanged with zucchini in recipes. They can be eaten raw, but many recipes call for cooking. They are all the same species, *Cucurbita pepo*, and have a thin edible skin. Fruit production is greatest during the warm summer months.

Hubbard squash variety that ripens to a deep orange growing in the All-America Selections garden at Deep Cut Gardens.

Winter squash takes longer to ripen and tends to be harvested toward the end of the growing season. The skin is not edible, and the hard flesh requires cooking. Acorn squash (*Cucurbita pepo*), butternut squash (*Cucurbita moschata*), Hubbard and Turk's turban squash (*Cucurbita maxima*) are examples.

What is the Deal with all Those Gourds?

Lagenaria gourd with flower.[1]

Gourds are generally broken into two groups.[8] The *Lagenaria siceraria* varieties that include spoon, bottle and birdhouse gourds. These have white flowers and fruit that ripen from green to tan. Once cured, the shells are hard enough to be carved. The *Cucurbita pepo* varieties have yellow flowers and produce fruit with a variety of shapes that ripen into colorful displays

Assorted Cucurbita gourds.[1]

of green, orange, and yellow. Their skin is not quite as tough. They harden with age but are not as long lasting as the Lagenaria type.

Harvesting Gourds[8]

Harvesting for each group is a little different. Lagenaria is temperate in origin so it's best to harvest ripe fruit when the foliage has browned from one or two light frosts. The cold weather will not be damaging unless the gourds are still immature. Cucurbita gourds have a tropical origin and should be harvested before the first frost. The best way to determine readiness is to see a brown dry stem attached to the fruit. Some suggest using the fingernail test (if you can break the skin with your nail), but this increases the likeliness that rot will set in during curing.

Curing Gourds[8]

After the harvest, wash fruit with caked on dirt in warm soapy water, rinse with a water/household disinfectant mixture, and dry with a cloth. Those that are lightly soiled can be cleaned with a cloth and household disinfectant. Surface drying in which the skin hardens takes a week. They should be placed on newspaper in a warm dry location with good circulation. Gourds should not be touching. Rotate daily and replace moist newspaper when needed. Compost any that develop soft spots or shrink. The bacteria causing these symptoms can spread to otherwise healthy fruit. Once the skin hardens wipe with a cloth and household disinfectant and spread gourds in a warm, dry, dark place for three to four weeks. Darkness prevents colors from fading in Cucurbita varieties. Basements are not good drying locations. Try a well-ventilated garage or shed.

Continues next page...

Glossary of Fruit Terms[7]

Berry: A fleshy fruit derived from a single pistil or several fused pistils. Examples: cucumber, zucchini, and other summer squash. Others include grape (*Vitis sp.*) and tomato (*Solanum lycopersicum*).

Capsule: A fruit that splits open in a variety of ways depending on the species and derived from two or more fused pistils. Examples: Luffa sp. and wild cucumber. Other examples include poppies (*Papaver sp.*) and irises (*Iris sp.*).

Pepo: A berry-like fruit that has a hard, outer rind. Examples: cantaloupe, melon, pumpkin, and watermelon. There are no other examples as this fruit type is a family trait.

Samara: A fruit that does not split open and contains a single seed that is surrounded by winged tissue. Examples: *Cucurbid genera* predominantly grown in South America. Other examples include maples (*Acer sp.*) and tulip trees (*Liriodendron tulipifera*).

Dishcloth Gourds aren't Really Gourds or Squash

Although not commonly grown in this area, the dishcloth gourd or luffa sponge is another gift of the garden – should you decide to grow it. Unlike all the other harvests mentioned so far, this species produces a capsule type fruit. It can be eaten as a substitute for summer squash or cucumber when they are still green and less than seven inches long. Once bigger, they become fibrous, taking on the characteristics of the famous sponge.[9] Luffas need to be peeled and seeded before they can be used as sponges. Peeling requires a pretreatment.[8] Fruit could be soaked in water until the skin softens, boiled for 15 minutes, or placed in the freezer for two hours, and then thawed and peeled. Once peeled, seeds can be removed by shaking. Before using as a sponge wash with mild soapy water a few times.[8]

Luffa gourd (Luffa aegyptiaca) *in the eating stage.*[1]

Luffa dried and pealed.[1]

Growing Cucurbids in the Garden[10]

These are group guidelines – for individual crop information look to your favorite reference. Start seeds indoors around the average last frost date. Germinate in small cups (hole in the bottom) or peat pots to reduce root disturbance when placing out in the garden. These plants like warm soil and should not be planted outside until the soil is at least 65°F, but warmer is better. Full sun and a good watering weekly (twice in very hot weather) is recommended. Many of these fruits have a highwater content. As with all plants water the soil, not the leaves. This reduce the chance of leaf disease problems. These vines have the capacity to grow quite large. Using trellises or other climbing supports can save on space. Weed regularly until the plants are big enough to shade the area around them. They are heavy feeders, fertilize once per month.

References:

1. Wikimedia Commons. Public Domain. Free Art. Creative Commons 2.0, 3.0, 4.0
2. https://creativecommons.org/licenses/by-sa/2.0/deed.en; https://creativecommons.org/licenses/by-sa/3.0/;https://creativecommons.org/licenses/by-sa/4.0/deed.en
3. Osterloff, E. The Cretaceous Period: What was Earth like before dinosaurs went extinct? The Natural History Museum, UK. https://www.nhm.ac.uk/discover/the-cretaceous-period.html
4. Schaefer, H & P. Acevedo-Rodríguez. 2025. Cucurbitaceae. Smithsonian National Museum of Natural History. https://naturalhistory.si.edu/sites/default/files/media/file/cucurbitaceae_0.pdf
5. USDA. PLANTS Database. Natural Resources Conservation Service. https://plants.usda.gov/
6. Minnesota Wildflowers a field guide to the flora of Minnesota. 2025. https://www.minnesotawildflowers.info/flower/bur-cucumber
7. Simpson, M. 2006. Plant Systematics. Elsevier Academic Press, NY, NY.
8. Nabors, M.W. 2004. Introduction to Botany. Pearson Education Inc., NY, NY.
9. Michael N. Dana, MN & B. Rosie Lerner. Gourds. Perdue Cooperative Extension. https://www.purdue.edu/hla/sites/yardandgarden/wp-content/uploads/sites/2/2016/10/HO-135.pdf
10. North Carolina Extension Plant Toolbox. Luffa aegyptiaca. https://plants.ces.ncsu.edu/plants/luffa-aegyptiaca/
11. Bartholomew, M. 2005. Square Foot Gardening. Rodale Inc./Holtzbrink Publishers.

How Trees Create the Fall Colors We Love

Stephanie Horton, Recreation Leader

When the autumn months roll around, nature lovers look forward to cooler weather and of course, an explosion of vibrant reds, oranges, and yellows in forests across North America. We know this breathtaking transformation signals the change of seasons, but what actually causes this annual color shift? While the beauty of fall foliage is widely appreciated, the science behind it reveals a complex interplay of biology, chemistry, and environmental conditions.

Before fall rolls around, deciduous trees leaf out in broad canopies of green. The green color we see in leaves during spring and summer is due to chlorophyll, a pigment that plays a vital role in photosynthesis. Photosynthesis is the process by which plants convert sunlight into energy. Throughout the growing season, chlorophyll is constantly produced and broken down within the leaf's tissue[3]. As summer ends and temperatures begin to drop, trees respond to the changing environment by slowing and eventually halting chlorophyll production.

A leaf backlit by sunlight reveals the overwhelming green pigments caused by chlorophyll production.

When a leaf's green pigment fades away, it reveals other pigments that were already present in the leaf but hidden during the summer months[6]. Gradually, each leaf reveals yellow and orange pigments known as carotenoids. These pigments also give carrots and corn their distinctive hues. Carotenoids are responsible for the golden yellows of species like birch, hickory, and some maples.

Red and purple tones, on the other hand, come from anthocyanins, pigments that are not always present but are produced in the fall by some tree species in response to certain conditions. Plants produce

anthocyanins specifically when light intensity is high, but temperatures are low enough to slow photosynthesis[2]. These pigments are found in plants like sugar maples and red oaks and are believed to serve several purposes, including protecting the leaf from sun damage or deterring herbivores[5].

The colorful fall display brings joy to forest lovers and leaf peepers, but deciduous trees have evolved this behavior as part of their yearly survival strategy. Changing their leaf color helps deciduous trees prepare for winter. As the season shifts, trees begin the process of senescence, the shutting down of life processes in preparation for dormancy. One major step is sealing off the leaves from the rest of the plant. At the base of each leaf stem, a layer of cells called the abscission layer gradually forms, cutting off water and nutrient flow. Eventually, this leads to the leaf falling off[6]. By shedding their leaves, deciduous trees conserve water and reduce the risk of damage from snow and ice accumulation. The dramatic color display is essentially a byproduct of the tree's survival strategy of energy conservation.

A sugar maple (Acer saccharum) with autumnal red leaves which are caused by anthocyanins.

If you notice that some local trees have brown, crinkled leaves still clinging to their branches even in the winter that is a phenomenon known as marcescence. This trait is most commonly found in juvenile trees or lower branches of mature trees. Oaks, beeches, witchhazels, hornbeams, and spicebushes are some examples of trees that have shown marcescence. In marcescent plants, the petiole (or leaf stalk) doesn't create an abscission layer until spring[1]. Scientists have named the process but haven't yet concluded why it exists. Some theorize that this spring leaf layer provides nutrient-dense mulch at the base of the tree to help with a new year of growth.

*An American Beech (*Fagus grandifolia*) showing marcescent leaves in the winter.*

The presence of pigments within leaves determines the basic color palette; however, the intensity and timing of fall colors can vary from year to year based on weather conditions. Warm, sunny days and cool (but not freezing) nights enhance the production of anthocyanins, leading to more vivid reds and purples. Too much rain or an early frost, on the other hand, can dull the display or cause leaves to fall prematurely[4].

Drought stress earlier in the year may also affect leaf color and drop timing. If a tree has experienced water shortages, it may begin the senescence process earlier, shortening the window of color change[3].

Scientists like phenologists can observe the forest's recurring color changes every year to measure how the plant is responding to ecological factors. In a broader sense, paying attention to fall foliage can help people connect with seasonal rhythms and become more attuned to how trees and ecosystems respond to environmental cues. As climate patterns shift, the timing and quality of autumn colors may change as well, offering both a visual reminder and a potential indicator of broader ecological trends.

*A tulip poplar (*Liriodendron tulipifera*) at Deep Cut Gardens in the fall in the process of senescence to enter dormancy for the winter.*

References:

1. Friedman, N. (2021, December 13). The Essence of Marcescence | Arnold Arboretum. Arboretum. harvard.edu. https://arboretum.harvard.edu/stories/the-essence-of-marcescence/

2. Jonjak, A., & Devi Mura, J. (2021, September 21). "Why Leaves Turn Red"—and Cranberries, Too? – Wisconsin Fruit. Fruit.wisc.edu. https://fruit.wisc.edu/2021/09/21/why-leaves-turn-red-and-cranberries-too/

3. Rutgers University. (2022, September 27). Why do leaves change color? https://www.rutgers.edu/news/why-do-leaves-change-color

4. Smithsonian Institution. (n.d.). Why do leaves change color in the fall? https://www.si.edu/stories/why-do-leaves-change-color-fall

5. SUNY College of Environmental Science and Forestry. (n.d.). Why leaves really change color in the fall. https://www.esf.edu/eis/eis-leaves-color-change.php

6. U.S. Forest Service. (n.d.). The science of fall colors. https://www.fs.usda.gov/visit/fall-colors/science-of-fall-colors

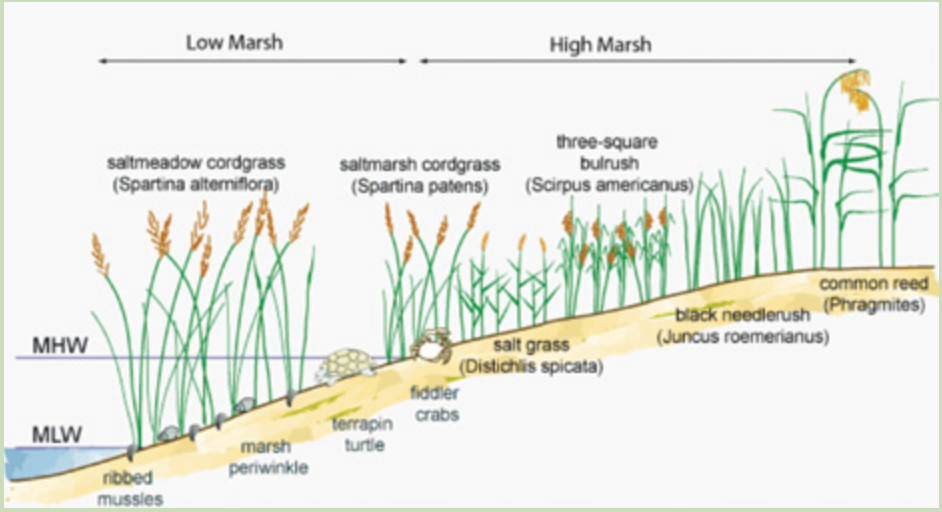
Paul Mandala, Park Naturalist

Tucked between the bustling communities and scenic beaches of Monmouth County lies an ecological treasure that plays a quiet but powerful role in the health of the region's environment: tidal salt marshes. These unique coastal wetlands stretch along the Raritan Bay, Navesink River, Shrewsbury River, and Sandy Hook Bay, providing sanctuary for wildlife. Despite their seeming simplicity, flat grassy landscapes interspersed with meandering tidal creeks, salt marshes are among the most productive ecosystems on Earth. They support a wide range of flora and fauna. Tidal salt marshes represent one of New Jersey's most valuable and vulnerable natural resources.

Tidal salt marshes are coastal wetlands that are located in the intertidal zone, meaning they are regularly flooded then drained by saltwater brought in and out by the tides. They are typically found along the sheltered edges of bays, estuaries, and rivers, where freshwater meets saltwater creating brackish water. These marshes are dominated by salt-tolerant vegetation and host an incredible diversity of life. They are a local biodiversity hotspot. The productivity of tidal salt marshes hinges on the salt-tolerant plant communities that thrive there. These plants are not only adapted to survive in saline conditions, but they also stabilize sediment, buffer wave energy, and support complex food webs. New Jersey's tidal salt marshes also serve as vital breeding, feeding, and resting grounds for countless species. In summer, several specialist bird species rely entirely on these areas and nest directly within the marsh grasses.

The salinity levels, periodic inundation, and anaerobic or low oxygen soils create a unique environment in which only specially adapted plants and animals can thrive. Plant life is the foundation of the tidal salt marsh. In a tidal salt marsh, plant communities are generally composed of 90% grasses and grass-like plants such as sedges and rushes. Woody plants and broad leave plants make up only a small portion of the total plant species diversity and are usually found in the more upland areas. The dominant plants include smooth cordgrass (*Sporobolus alterniflorus* previously known as *Spartina alterniflora*) which is found right along the open water border in the lowest lying areas which is flooded daily by tides. Smooth cordgrass forms the backbone of salt marsh vegetation. Its dense root systems trap sediments, helping to build and maintain marsh elevation. Saltmeadow cordgrass (*Sporobolus pumilus* previously known as *Spartina patens*) forms a dense, wiry mat and are dominant in the mid-marsh areas that are less frequently inundated by saltwater. Other common species include saltgrass, needlegrass rush, and glasswort.

*Smooth cordgrass (*Sporobolus alterniflorus *previously known as* Spartina alterniflora*) is an important and dominant grass of the tidal salt marsh that survives the low marsh zone. Where it is regularly inundated by salt water during high tides. Photo taken by Cephas via Wikimedia.*



A cross section view of a Tidal Salt Marsh that shows the zonation based on the height of land above sea level based on the Median Low Water Tide Level and the Median High Water Tide Level. Photo created by Dronkers J. via Wikimedia.

*Saltmeadow cordgrass (*Sporobolus pumilus *previously known as* Spartina patens*) is another important dominant grass of the tidal saltmarshes that grows along the mid marsh zone. They are less regularly inundated by the tides only during the highest of tides. Photo taken by DANA Filippini NPS via Wikimedia.*

Among their many ecological contributions, one of the most important is providing nesting habitat for various bird species. In Fact, some birds depend entirely on the salt marsh for breeding success. Tidal salt marshes offer a unique combination of isolation, protection from predators, and abundant food sources, making them ideal for nesting. For some birds, these marshes are the only place they can breed successfully. Unlike forest or grassland birds, marsh-nesting birds must contend with daily tidal flooding, a challenge that has shaped their breeding behaviors and nest-building strategies. Among the most iconic bird species, Saltmarsh Sparrows, Seaside Sparrows, and Clapper Rail all depend exclusively on tidal marshes for their survival. These birds are not just visitors; they are specialists, whose entire life cycles are deeply tied to the ebb and flow of the tides, the composition of marsh vegetation, and the overall health of the ecosystem.

Perhaps no bird is more emblematic of salt marsh conservation challenges than the saltmarsh sparrow, (*Ammospiza caudacuta*), a small, secretive bird that nests exclusively in high marsh vegetation, typically in stands of *Spartina patens*. The saltmarsh sparrow has evolved to nest in the narrow window between high tides. It builds its nest just a few inches above the ground, gambling that it can raise its chicks before the next spring tide floods the marsh. This species is currently under threat due to habitat loss and sea-level rise. Often confused with the saltmarsh sparrow, the seaside sparrow (*Ammospiza maritima*) is slightly larger and darker, with a yellow patch above its eye. These birds tend to nest slightly higher in the marsh, often in areas with a mix of smooth cordgrass and rushes closer to the waterline or just above the high tide mark. They build domed nests suspended among tall grasses to protect against predators and rising water. Seaside sparrows are a bit more resilient to flooding than their saltmarsh cousins. The clapper rail (*Rallus crepitans*), are more vocal and visible than sparrows, often identified by their loud, clattering calls with its distinct “kek-kek-kek” call. The clapper rail is a marshland specialist that nests in low to mid-marsh areas, where it uses dense grasses and rushes to hide its floating nest. These require expansive, undisturbed marshlands with reliable tidal flushing and thick vegetation. Their nests are vulnerable to flooding, predators, and disturbance.

A saltmarsh sparrow (Ammospiza caudacuta) *perched in a saltmarsh holding onto grasses in a typical fashion. Its song are a quiet, complex series of raspy, barely audible buzzes, trills, and gurgles. Note the bright orange in the face with contrasting grey cheek patch. Photo taken by Mitch Harley USFWS via Wikimedia.*

A seaside sparrow (Ammospiza maritima) *perched among marsh grasses getting ready to sing for a mate. A quiet short buzzy rising trill, with the mnemonic, Spring. Note the distinctive yellow lore by the eye. Photo taken by DMSDMS215 via Wikimedia.*

*The elusive clapper rail (*Rallus crepitns*) walking along the marsh edge at low time hunting for food. Photo taken by Lwolfartist via Wikimedia.*

The view into a saltmarsh sparrow nest with chicks. Photo taken by Becky Longenecker USFWS via Wikimedia.

Salt Marshes are also especially significant for migratory birds navigating the Atlantic Flyway, a major north-south route of travel for birds in North America. In spring and fall, thousands of birds rely on these wetlands to rest and refuel during their long journeys. The plethora of species include: semipalmated sandpiper, least sandpiper, semipalmated plover, black-bellied plover, greater yellowlegs, lesser yellowlegs, dunlin, sanderlings, spotted sandpiper, solitary sandpiper, ruddy turnstones, and short-billed dowitchers. These birds often form large flocks to feed along the exposed mudflats and marsh edges. They probe for invertebrates like worms, mollusks, and crustaceans at low tide. These shorebirds utilize salt marshes and estuarine mudflats as they migrate, often in spectacular numbers. They depend on these habitats being undisturbed and rich in food sources.

Tidal salt marshes of Monmouth County may not attract the same attention as its boardwalks or beach resorts, but they are more than just wetlands, they are ecological powerhouses that support an astonishing array of life. They are sanctuaries for rare and threatened species, fuel stops for world-traveling migrants, and year-round homes for countless residents. The Saltmarsh Sparrow and Seaside Sparrow are not only indicators of marsh health but also symbols of the delicate balance between nature and rising seas.

Clapper rail nest with eggs hidden among pickleweed. Photo taken by Lisa Cox USFWS via Wikimedia.

GREEN HERITAGE

805 Newman Springs Road, Lincroft, NJ 07738-1695

Volume 59, No. 3 Fall 2025 25436 10/25

Lillian G. Burry
January 15, 1936 - *August* 28, 2025

Lillian G. Burry of Colts Neck, a visionary leader and tireless advocate for Monmouth County's natural and historic treasures, passed away peacefully on August 28 at age 89.

As County Commissioner, Lillian was a driving force behind the expansion and protection of the Monmouth County Park System. She championed open space preservation, historic restoration, and public access to green spaces, helping secure thousands of acres for future generations. Her leadership was instrumental in projects like the acquisition of the Montrose Schoolhouse and the revitalization of Fort Hancock, where she worked closely with the National Park Service to repurpose historic buildings for education and community use.

She served on the Fort Monmouth Economic Revitalization Authority and the Fort Hancock 21st Century Advisory Committee, ensuring that redevelopment efforts honored the site's legacy while serving public needs. Her work helped bring the Marine Academy of Science and Technology to Fort Hancock and supported the creation of housing for homeless veterans.

Lillian was the first woman to serve as Director of the Monmouth County Board of Commissioners and received numerous awards for her public service, including the Count Basie Vanguard Award and the Girl Scouts' Women of Distinction honor.

She is survived by her husband of 70 years, Donald, their daughter Lenore, grandchildren, and great-grandchildren. Lillian's legacy lives on in the parks, trails, and historic sites she fought to protect—and in the hearts of those she inspired to serve.

In This Issue: