



The Swamp Scene

friends of great swamp national wildlife refuge

ISSUE SEVENTY-EIGHT
JULY 2025

Highlights

Volunteer Recognition Event	1,8-9
President's Message	2
Great Swamp Breeding Birds	3-5
Hummingbird Plants	6-7
Poem & New Duck Stamp	10
Brother Inc, Corporate Partner	11
Charles Rummel, Mothman	12-13
Great Swamp Butterfly Count	13
Great Swamp Diary	13

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THIRTY-NINTH ANNUAL VOLUNTEER RECOGNITION EVENT

Co-sponsored by the US Fish & Wildlife Service and Friends of Great Swamp NWR, Photos by Dave Katz, Friends Board of Directors



Judi DiMaio, 6,000 & 7,000 hour awards



Kathy Woodward receiving her 13,000 hours award from Jared Green, Visitor Services manager. Chelsea DiAntonio, Supervisory Wildlife Biologist in background.

Volunteers gave 16,715 hours for the fiscal year ending 2024.



Randi Emmer, 13,000 & 14,000 hours, with the heavenly cake.



Matt Heiss, 5,000 hours



Terry Kulmane, 5,000 hours

Continued on page 8.

FRIENDS PRESIDENT'S MESSAGE

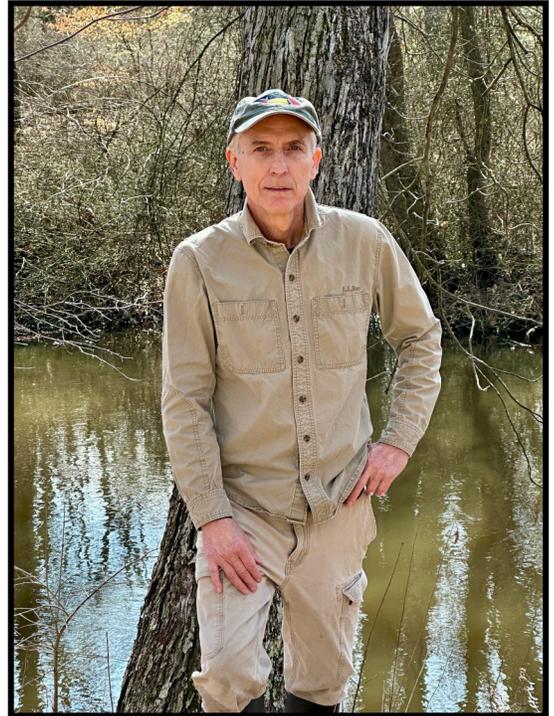
By Tom Gula, President, Friends of Great Swamp National Wildlife Refuge

The Refuge has seen a lot of change over the years, but it continues to be strong: a place we all cherish and help safeguard its diverse habitats and wildlife.

The recent Volunteer Recognition Event on June 4 was an opportunity to reflect on the amazing accomplishments of our volunteers. The past year saw a total of over 16,715 volunteer hours. With recognition comes thanks - to all the volunteers who contribute to making the Refuge a sanctuary for wildlife, and a welcoming setting for the many visitors who come to enjoy this special place.

Thank you to everyone who volunteered for the many activities throughout the year, including: Pervasive Invasives, GardenKeepers, corporate workdays, greeting visitors at the Visitor Center and Wildlife Observation Center (including the VC nature shop), outreach programs, Second Sunday presentations, Refuge Readers, Friday Walks with Friends, trail maintainers, nest box monitors, construction and maintenance workers, financial accounting, tabulating volunteer hours, and other valuable contributions, both large and small.

I'll end with a personal anecdote that came as a reminder of the lasting positive effects of our Friends organization. I recently had the opportunity to meet with the President of a Friends group of a large National Wildlife Refuge in New Mexico. He is an avid birder, and we spent time walking Pleasant



Tom Gula, photo by Richard Hiserodt

Plains Road and some of the White Oak Trail, sharing stories and experiences (for example, an initiative out west using goats to control invasive plants - new to me). He emailed me a note of thanks after the visit, with an interesting observation: "I think my highlight was the Purple Martins, which I have never seen so close up." The martin nesting pole behind the Pavilion was erected in 2015, funded by the Friends and maintained yearly through its 10th anniversary by dedicated volunteers. May it and the many other wonderful contributions, past and future, by our volunteers continue to bring pleasure to visitors to Great Swamp NWR.



*Purple Martins (L to R) female, juvenile, male
Photo by Steve Weiner*



FOR GREAT SWAMP'S BREEDING BIRDS, THERE'S NO PLACE LIKE HOME

By Paul Lauber, Secretary, Friends of Great Swamp National Wildlife Refuge

[This article was originally presented as a Second Sunday Program.]

For many who study birds, the end of spring migration means packing the binoculars away until a brisk autumn wind starts pushing hawks and songbirds south again. At Great Swamp NWR, however, the summer months offer a unique opportunity to study our local breeding birds.

For those up for a challenge, the study of bird nests can be an exercise in mindfulness. Which species breed on the refuge? What are their habitat preferences? What materials are used to build their nests? Where do the birds place their nests? Will birds reuse a nest, or build a new one? The questions, it seems, are as varied as the birds themselves.

A popular ad says, "You've got questions, we've got answers". We may not have all the answers, but here's an overview that will hopefully increase your appreciation of GSNWR's importance to breeding bird conservation.



Female goldfinch gathering tent caterpillar webbing for her nest. Photo by Steve Weiner.

Though once slated to become a major jetport, today's refuge thrives as an active avian nursery. According to published records, there are about 100 species of birds that have nested at GSNWR. From a statewide perspective, a remarkable 45% of all NJ's breeding bird species have nested on the refuge. So, what makes the



Hummingbird cup nest covered with lichen for camouflage. Note the spiderwebbing stretching from the left side of the nest along the branch. Photo by Steve Weiner.

Great Swamp such a hotspot for breeding birds?

First and foremost, GSNWR covers 12 square miles of unfragmented, federally protected, and actively managed habitat, all in the heart of NJ's suburban sprawl. Further, the refuge provides a number of distinct sub-habitats that increase biodiversity. These sub-habitats include brushlands, grasslands, cattail marsh, floodplains, forested wetlands (i.e. swamp), and mature



Mourning dove on stick nest. The doves' nests are so poorly built that they often fail, so doves are capable of having 3-4 clutches per year. Photo by Steve Weiner.

hardwood forests. Importantly, there are 570 acres of water level-controlled impoundments, as well as a myriad of freshwater brooks and streams, including the Passaic River on the western border.

(Continued on page 4)

THERE'S NO PLACE LIKE HOME

(Continued from 3)

Birds will use almost anything when nest building, and the refuge provides an abundance of material. Most species use branches, bark, twigs, feathers, leaves, grasses, plant fibers, and rootlets. A few species add mud (American robin, eastern phoebe, barn swallow), while others use cottony plant material from cattails, milkweed, and thistle (yellow warbler, eastern goldfinch). Some birds decorate, camouflage, and construct their nests with lichen (hummingbird, gnatcatcher, vireos), horsehair (chipping sparrow), grapevines (catbird), spider eggs and spider silk (orioles, vireos),



Juvenile male orchard oriole in a pendulous nest.
Photo by Steve Weiner

and even snakeskins (great crested flycatcher). And let's not underestimate avian ingenuity and the use of debris. David Moskowitz, co-author of the 2021 *Peter-son's Field Guide to North America Bird's Nests*, once found an oriole's nest made entirely of fishing line!

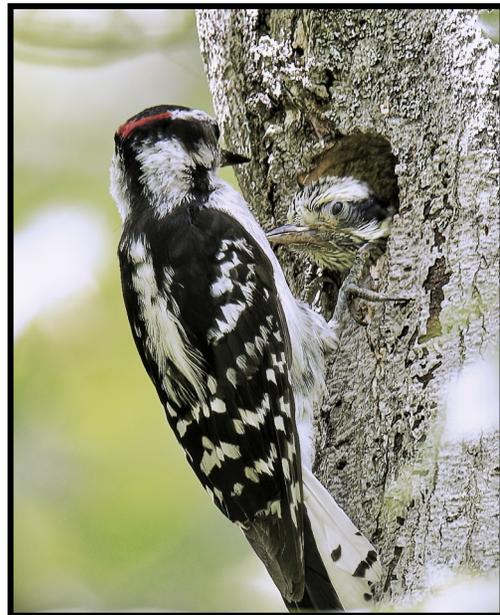
At GSNWR, the open CUP NEST is by far the most common nest design, used by almost all migratory passerines (i.e. songbirds). Cup-nesting bird families include warblers, flycatchers, vireos, sparrows, grosbeaks, thrushes, blackbirds, mimics (mockingbird, catbird, brown thrasher), tanagers and finches. From an evolutionary perspective, the ability to build the complex cup nest has enabled migrant passerines to breed not only at GSNWR, but in almost all climates and habitats

worldwide.

For a familiar example, picture the cup nest of the American Robin. Built on a ceramic-like mud base, the exterior nest includes an outer layer of larger sticks and twigs, the interior nest a soft layer of grasses, fibers, and rootlets. The cup nest keeps the young warm, dry, and hidden, and is designed to expand as the chicks hatch and grow. For that and other reasons (like secrecy), the cup nest is not re-used for additional broods. Instead, cup-nesting species will build a whole new nest, often in just 3 to 6 days.

At GSNWR, unique iterations of the cup nest include the "pendulous" nest (Baltimore oriole), "globular" nest (marsh wren), "pensile" nest (red-eyed vireo), and the brick oven-shaped "domed" nest of the aptly named ovenbird (a warbler).

But breeders beware!...the brown-headed cowbird is a brood parasite that drops its eggs in open nests. In North America, cowbird eggs have been found in over 200 host bird species. Though some birders may frown, cowbirds are expert at finding (and parasitizing) active bird nests, a successful strategy for a once nomadic species.



Downy woodpecker feeding chick in cavity nest.
Photo by Robert Lin.

The CAVITY NEST is also used by many refuge birds. Cavity nesters are divided between "primary excavators" and "secondary cavity-users". Primary excavators are birds that create their own nesting cavities, and include our six breeding woodpeckers (downy, hairy, red



*Juvenile Coopers Hawk feeding chicks in platform nest.
Photo by Steve Weiner*

bellied, northern flicker, red-headed, and pileated). The other primary excavator is the belted kingfisher, a bird that digs a nesting burrow of 3-8 feet in length, often into a stream bank. (*hmmm....is that why woodpeckers and kingfishers are found on adjacent pages in birding field guides? Talk amongst yourselves!*)

By comparison, secondary cavity-users will nest in either abandoned woodpecker holes or existing tree cavities. At GSNWR, this is a disparate bunch, and includes American kestrels, screech owls, prothonotary warblers, chickadees, titmice, nuthatches, wrens, great-crested flycatchers, and starlings. In addition, thanks to the hard work of refuge volunteers and support from “viewers like you”, hundreds of man-made nest boxes are maintained to benefit bluebirds, tree swallows, wood ducks, hooded mergansers, and purple martins.

When birders think of a PLATFORM NEST, they usually think of an Osprey. A common breeder along the NJ shoreline, the Osprey is not a breeding bird at GSNWR (not yet!). But for students of nest design, the term “platform” generally refers to a large stick nest found high in trees, sometimes conspicuous, and often reused by nesting birds over many years. At GSNWR, raptors including buteos (red-tailed, red-shouldered, and broad-winged hawks), owls (barred, great horned) and Cooper’s hawks all utilize platform nests. In addition, waterbirds like great blue herons are well known for their nesting “rookeries”, where multiple platform nests can form a breeding community. Lastly, the Bald

Eagle’s platform nest (or eyrie) is undoubtedly the most impressive and admired on the refuge. At GSNWR, Bald Eagles built their first nest in 2012, and have been breeding since 2016.

Finally, a small number of refuge breeders use a SCRAPE NEST. These birds don’t build a typical nest, but simply drop their eggs in a slight depression. Since their eggs are spotted, marbled, streaked, or blotched, they blend in perfectly with the ground cover. At GSNWR, scrape-nesting birds include American woodcock, spotted sandpiper, killdeer, and wild turkey. Though it may seem unsophisticated, the scrape nest may be the ultimate avian ruse; the nest simply isn’t there!

North America’s birds are in crisis, with 3 billion birds lost since 1970. This is due primarily to habitat loss, fragmentation, climate change, and feral cats (domestic too; best to keep Tabby on a leash!). If you find an active bird’s nest in the field (or backyard), be sure to keep a respectful distance. Breeding season is a critical time for birds, and they need all the help we can provide in safeguarding their camouflaged nurseries.

At GSNWR, the study of bird’s nests can be a fascinating way to spend an otherwise quiet season. Whether you delight in the tiny, lichen-covered cup nest of the Ruby-throated Hummingbird, or marvel at the Bald Eagle’s massive platform eyrie, there’s one thing for sure. For Great Swamp NWR’s breeding birds, there’s no place like home.

Who’s There?

Heard before seen.

Hiding from whom?

Answer on page 13.

Photo by Lisa Florio.



HUMMINGBIRD PLANTS AT GREAT SWAMP NWR

By Lori Sorensen, Friends Volunteer

Hummingbirds seem magical because of their iridescent colors and their ability to hover with wings beating so fast that they blur. Hummingbirds and some of the plants they need can be seen at GSNWR.

The only hummingbird regularly seen in New Jersey is the ruby-throated hummingbird (*Archilochus colubris*) and there have been breeding pairs at the GSNWR. For more details about these fascinating creatures you can start with David Katz's article about Ruby Throated Hummingbirds at <https://friendsofgreatswamp.org/ruby-throated-hummingbirds>

Plants and hummingbirds have co-evolved, leading to hummingbirds with long tongues and flowers with deep corollas. This causes hummingbirds to prefer tubular flowers, although they will use others. Hummingbirds prefer red and orange flowers but will use flowers of other colors. This is especially true if they've already been attracted to an area by some of their favorite plants. Hummingbirds can be attracted to containers and even a single pot on a balcony.

Many hummingbird plants will attract other pollinators such as butterflies, bees and hummingbird moths. It's surprising how easy it is to garden to attract hummingbirds!



Female ruby-throated hummingbird feeding on trumpet vine. Photo by Dave Katz

These three plants at the GSNWR are among hummingbird favorites: cardinal flower (*Lobelia cardinalis*), jewelweed (*Impatiens capensis*) and trumpet vine (*Campsis radicans*).

Some other plants at the GSNWR which hummingbirds use once they're attracted to an area are: swamp milkweed (*Asclepias incarnata*), butterfly

weed (*Asclepias tuberosa*), great blue lobelia (*Lobelia siphilitica*) and wild bergamot (*Monarda fistulosa*).

Below is information about growing some hummingbird plants in the home garden. Some of these are toxic so please check if you have pets or children. See the Missouri Botanical Garden (mobot.org) website for more detailed information.



Wild bergamot with Eastern tiger swallowtail nectaring. A flower that attracts hummingbirds will also attract butterflies. Photo by Dr. Thomas G. Barnes, USFWS, Public domain.

SOME HUMMINGBIRD FAVORITES FOUND AT THE GSNWR LIKELY TO ATTRACT HUMMINGBIRDS TO YOUR AREA

Cardinal flower (*Lobelia cardinalis*) - Herbaceous perennial. Sun to part shade, moist to wet soil, very attractive with red flowers which bloom from July to September. This is a short-lived perennial but can remain in the garden in good conditions from self-sowing.

Jewelweed (*Impatiens capensis*) - Herbaceous annual. Shade to partial shade, prefers wet soil but tolerates medium soil. Orange to yellow-orange flowers bloom from June to September. In ideal growing conditions it can become aggressive through self-sowing.

Trumpet vine (*Campsis radicans*) - Woody vine. Very aggressive in good conditions, so only use if its spreading won't be a problem. It needs strong support, so there must be something like a wall, fence or trellis. Sun to part shade, can be grown in shade if only foliage is wanted. Grows in a variety of soils but best in lean to average soils with regular moisture. Orange or scarlet flowers in July.

OTHER HUMMINGBIRD FAVORITES

Bee balm (*Monarda didyma*) - Herbaceous perennial. Sun through partial shade in medium to wet mois-

ture retentive soil. Red flowers bloom from July to August. Deadheading encourages additional blooming. Give it good air circulation to avoid powdery mildew. Straight species natives are best for genetic diversity and, in some cases, cultivars do not serve wildlife. In the case of bee balm, some cultivars such as 'Raspberry Wine' and 'Jacob Cline' have better mildew resistance and still attract hummingbirds. Check <https://mtcubacenter.org/trials/monarda> for garden ratings based on their trials and their ability to attract hummingbirds for both bee balm (*Monarda didyma*) and wild bergamot (*Monarda fistulosa*). Plants can be cut down if powdery mildew is present and the plants should come up the next year.

Eastern red columbine (*Aquilegia canadensis*) - Herbaceous perennial. Especially important because it provides food early in the season. Sun to part shade, best in part shade. Well-drained medium soil. Red to orange with yellow flowers bloom April to May. Attractive airy foliage.

Trumpet honeysuckle (*Lonicera sempervirens*) - Woody vine. Sun to part shade with best blooming in sun. Medium well-drained soil. Beautiful scarlet to orange flowers from May to June with sparser flowering after that. Trumpet honeysuckle needs a wall, fence or trellis for support, unless it's being used as a ground cover. In New Jersey this is a semi-evergreen vine.

OTHER PLANTS HUMMINGBIRDS WILL USE

Butterfly-weed (*Asclepias tuberosa*) - Herbaceous perennial. Sun. Well-drained sandy or loamy soil. Orange to



Female ruby-throated hummingbird feeding on trumpet honeysuckle vine. Photo by Dave Katz

yellow-orange flowers from June to August.

Great blue lobelia (*Lobelia siphilitica*) - Herbaceous perennial. Sun to part shade, rich, medium to wet soil. Very attractive blue flowers from July to August.

Swamp milkweed (*Asclepias incarnata*) - Herbaceous perennial. Sun. Moist to medium soil. Pink, mauve or white flowers from July to August.

Wild bergamot (*Monarda fistulosa*) - Herbaceous perennial. Sun to part shade, well-drained dry to medium soil. Lavender or pink flowers from July to September. Dead-head to encourage rebloom. Read details about powdery mildew above in the section about bee balm.

THE CARPENTER BEE

By Judi DiMaio, GSNWR Board of Directors; Photo by Judi DiMaio

Carpenter bees are very large bees that look very imposing. Most people will back away quickly, afraid of getting stung. But these bees have gotten a bad rap. They are a native species, not aggressive and a very important pollinator. Often confused with bumblebees, these have a shiny abdomen while the bumblebees are fuzzy.



Solitary bees, the female is the one who makes perfectly round holes in old wood (they don't eat it) in April or May to make her nest and lay the eggs. They will use a nest over and over or other bees will use it. They leave a pile of "bee bread" (mix of pollen and nectar) and then lay one egg on it, seal it up and go on their way. The male will patrol the area and mate with the females. He will aggressively defend his territory and buzz loudly by your head but it is all a bluff; they can't sting as they have no stingers. They count on being large and aggressive to drive you away. Females can sting, but are also docile, stinging only if handled.

THIRTY-NINTH ANNUAL VOLUNTEER RECOGNITION EVENT

Continued from page 1

Photos by Dave Katz

Thank you for the time, energy, and skills you donate to Great Swamp National Wildlife Refuge. Your dedication and commitment helped us achieve so much this year. The projects you helped complete, the visitors you greeted and your belief in the goals of the Refuge and the Refuge system make each of you invaluable members of our team.

NOTABLE VOLUNTEER MILESTONES

100 Hour Name Tags: Jack Beighley, Mary Masilamani, Denise Soppas, Peggy Wilson

150 Hours: Lynda Brush, Kathe Kennedy, George Steinbach

250 Hours: Nancy Lennon, Christine Pirog, Martha Wells, Dennis White

500 Hours: Mary Beth Hansbury, Nancy Sturm, Pat Wells, Meg Zaleski

750 Hours: Lee Brush, Bill Koch, Lynn Marquis

1,000 Hours: John Breault, Anne Hebenstreit, Elaine Taub, Barbara Whitmore, Jack Donohue, Karen Donohue

1,500 Hours: Jim Halsey, Jack Donohue

2,500 Hours: Barry Bowman, Greg Henderson, Paul Lauber

3,000 Hours: Tom Cartwright, Tom Gula



Tom Cartwright, 3000 hours



Tom Gula, 3,000 hours

5,000 Hours: Matt Heiss, Terry Kulmane
6,000 & 7,000 Hours: Judi DiMaio
13,000 Hours: Randi Emmer, Kathy Woodward
14,000 Hours: Randi Emmer



Volunteers enjoying snacks in the Guadagno Pavilion

THIS LIST INCLUDES ACTIVE VOLUNTEERS WITH CUMULATIVE HOURS THROUGH MARCH 31, 2024.

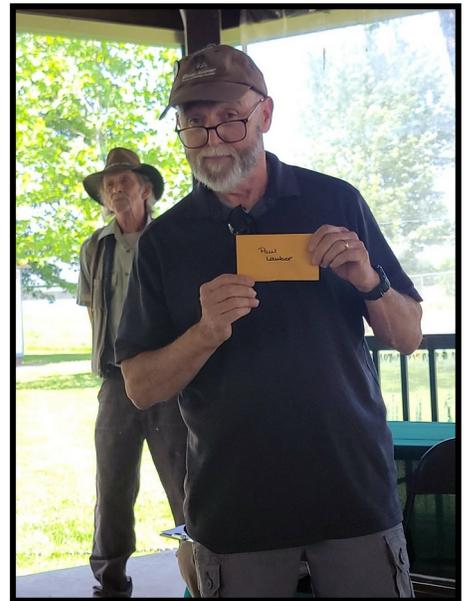
Volunteers accumulated 16,715 hours in volunteer activities, including Workday volunteers.
 The hours listed below for each individual represent their lifetime volunteer hours for Great Swamp NWR.

Pete Axelrod (744)
 Kate Bartley (56)
 Jack Beighley (165)
 Jane Bell (1,250)
 Steve Bell (51)
 Edward Berberich (113)
 Brenda Bourassa (390)
 Barry Bowman (2,693)
 John Breault (1020)
 Amy Brillhart (46)
 Samantha Brown (24)
 Lee Brush (805)



Barry Bowman, 2,500 hours

Lynda Goldschein (179)
 Steve Gruber (2,740)
 Tom Gula (3,077)
 Jim Halsey (1,692)
 Mary Beth Hansbury (526)
 Liz Harding (12)
 Anne Hebenstreit (1,036)
 Terry Heide (6)
 Matt Heiss (5,166)
 Greg Henderson (2,594)
 Stephen Herdman (2,066)
 Richard Hiserodt (2,403)
 Helen Hoffman (982)
 Dave Katz (2,422)
 Susan Katz (466)
 Kathleen C Kennedy (163)
 Gerard Kirwin (76)
 Henry Knoll-Finn (4)
 Bill Koch (761)
 Murali Krishna (204)
 Terry Kulmane (5,404)
 Paul Lauber (2,523)
 Nancy Lennon (294)
 Ernie Lettieri (124)
 Robert Lin (1,355)
 Patrick Lundrigan (29)
 Peg Lundrigan (404)
 Cathy Malok (50)
 Lynne Marquis (860)
 Mary Masilamani (105)
 Betty Mills (1,989)
 Evelyn Morton (165)
 Bridget Mracek (915)
 Greg Murphy (432)
 Ruth Nahm (352)
 Charlie Neiss (471)
 Carolyn Nestor Cook (17)
 Nikki Nobles (25)
 Bonnie O'Connor (132)
 Brian Osborn (203)
 Claudia Osborn (261)
 Peter Osborn (272)
 Tom Ostrand (288)
 Michael Parziale (28)
 Candace Paska (1,325)
 Quin Pemberton (8)
 Christine Pirog (303)
 Sue Randall (24)
 Jim Robinson (171)
 George Ross (190)
 Elizabeth Ryan (47)
 Chetan Sanghvi (73)
 Nancy Schenck (4,249)



Paul Lauber, 2,500 hours

Lynda Brush (160)
 Steve Carroll (17)
 Tom Cartwright (3,438)
 Peter Clark (142)
 Lee Cleary (235)
 John Dekens (218)
 Jim DeTizio (1,781)
 Judi DiMaio (7,034)
 Jack Donohue (1,545)
 Karen Donohue (1,128)
 Randi Emmer (14,807)
 Corinne Errico (1,246)
 Robert Errico (26)
 Nancy Felicito (1,567)
 Lisa Florio (150)
 Celeste Fondaco (151)
 Barbara Fowler (43)
 Bob Franco (152)
 Jim Gilbert (62)

Judy Schmidt (8,006)
 Vickie Schwartz (4)
 Bill Smullen (259)
 Dorothy Smullen (4,266)
 Denise Soppas (118)
 Lori Sorensen (94)
 Janet Stadelmeier (338)
 George Steinbach (157)
 Nancy Sturm (530)
 Olga Tarasenko (62)
 Elaine Taub (1,048)
 Gail Vollherbst (200)
 Aryaa Vyas (27)
 Shyam Vyas (28)
 Mary Jane Walsh (719)
 Esther Warner (1,099)
 Steven Weiner (35)
 Martha Wells (383)
 Pat Wells (506)
 Elaine Weyuker (242)
 Dennis White (286)
 Barbara Whitmore (1,030)
 Elizabeth Williams (56)
 Kathleen Willwerth (936)
 Walter Willwerth (3,831)
 Peggy Wilson (142)
 Carl Woodward (859)
 Kathy Woodward (13,772)
 Meg Zaleski (539)

THE WILDLIFE OBSERVATION CENTER A PERFECT DESTINATION

By Jack Donohue, Friends Volunteer; Photos by Jack Donohue

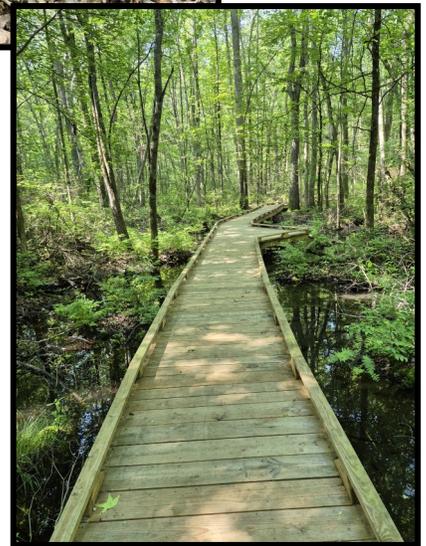
A network of boardwalks will guide you
To the Robbins Platform and observation blinds
A cornucopia of nature awaits you
Be joyful, be observant, and unwind.

The bald eagles are a major attraction
Songbirds are numerous and cheery
Listen to nature's wonderful sounds
Like the flutelike song of a veery.

A self-guided walk is available
To learn about our shrubs and trees
Like beech, oak, maple and azalea
Home of squirrels, songbirds and bees.



Indian Pipes



WOC Boardwalk



Spotted Turtle

Northern water snakes are common
However, tree frogs are harder to find
Look for snapping and painted turtles
In open water near the Sportsmen Blind.

Bullfrogs and green frogs may be croaking
A spotted turtle may be swimming in and out
Nearby, dragonflies may be hovering
You never know what creatures are about.

The more time you spend at our Center
The more about nature you will learn, like
How to identify buttonbush and Indian pipes
As well as cattails, spatterdock and royal fern.

2025-2026 FEDERAL DUCK STAMP: SPECTACLED EIDER



The competition for the 2025-26 Federal Duck Stamp painting was won by Adam Grimm of South Dakota. It is the third time Grimm has won.

Hunters of migratory waterfowl who are 16-years and older are required to purchase a duck stamp. The funds raised by the sale of duck stamps are used to purchase federal lands that support migratory ducks and geese.

Bird lovers can purchase a duck stamp in the Friends Nature Shop for \$25.

Spectacled Eiders breed and raise their young on the Alaskan and Russian tundra, then spend the winter afloat in the Bering Sea. It will be quite a field trip to add these to your bird list.

BROTHER INTERNATIONAL CORPORATION: A LONG-TIME PARTNER WITH GREAT SWAMP NWR

By Randi Emmer, Vice President, Friends of GSNWR; Photos by Dave Katz, Friends Board of Directors

On April 16, 2025, a dedicated group of Brother International Inc. employees arrived at Great Swamp NWR to celebrate Earth Day Month with Friends of Great Swamp. It was their 14th consecutive year of corporate work days, except in 2020 due to COVID, which we all overlook.

Brother's USA headquarters are located off Route 22 in Bridgewater, NJ. Traffic, congestion, cement everywhere, where was the calm nature, natural beauty and wildlife in NJ? Brother employees found that at Great Swamp many years ago. Every April, rain or shine, and amid freezing temperatures (this time) plus wind gusts of 47 mph, they arrived with smiles on their faces eager to start working.

Brother employees always say, "whatever you need us to do to preserve and protect wildlife and habitat, we are ready." Mother Nature has a hand in many of the projects the refuge/Friends asks them to do. After major storms, flooding, winds and ongoing erosion, Brother employees have hauled wheelbarrows full of stone dust, wood chips and gravel all over the Visitor Center area.

Their most rewarding challenge



Tom Cartwright supervising the construction volunteers.

has been the White Oak Trail. From year one of this project, Brother employees have had a hand in the project. There are many employees that have worked on it for five years. These hard-working Brother employees do not stop until the project is completed. They are thrilled with how it turned out.

This year's group of 16 employees were divided into three groups to help the Friends and refuge with three different areas.

1. On the White Oak Trail they spread stone dust to help the Trailblazers maintain the trail.
2. Along with the Friends Garden Keepers, they removed twigs, branches, raked leaves and did general Spring cleanup near the Visitor Center pavilion and nearby areas.
3. With the Friends Construction Crew they nailed together sections of wooden boardwalk that are needed at the Wildlife Observation Center.

The impact Brother and its employees have on the refuge each year is very visible and very important to all of us. Over the years they have, many

times, worked on the Nature Detective, Bockoven and White Oak Trails plus clean-ups all around the Visitor Center. They have planted trees and shrubs, spread wood chips, mulch and stone dust.

Each year everyone looks forward to relaxing with a fabulous BBQ catered lunch in the pavilion at the end of a long, hard workday. This is the time everyone socializes and reflects on what they each accomplished and how they can't wait for next year.

After lunch, members of the Friends gave the group a guided walk.

Here are some of the comments made by the Brother employees:

- They let me use power tools!
- What a great day I had. I will definitely come back next year" (a first-time volunteer).
- What a lousy day weather wise but look at what we accomplished.
- Thank you for the generous feast at lunch time.

One of the Brother executives commented, "Most of the team and others before them will be coming back to GS to walk once again with nature in the coming months and we all will definitely be back next year for sure." In past years the executives have said: "We strive to CREATE an Extraordinary Day with our environment day and GS never fails to give that to us." and "I am sure you are aware that Brother values this strong connection amid our volunteers and they are always happy to come each year and see the progress they can make and sweat a little but then you reward them with an over the top luncheon."



Charlie Neiss overseeing work at the gravel pile.

CHARLES RUMMEL: MOTHMAN OF THE GREAT SWAMP

By Martha Wells, Co-Editor

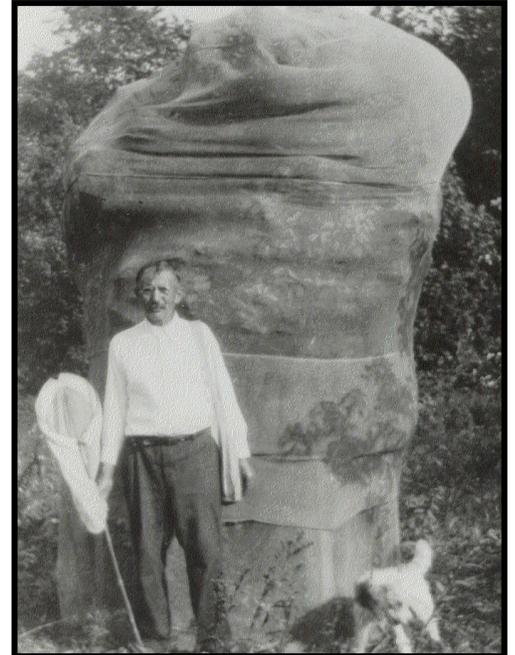


Charles Rummel with one of his traps
(Chatham Township Historical Society)

Before most of the Great Swamp became Great Swamp National Wildlife Refuge, there were people of all ages exploring the environment and appreciating the wildlife they discovered there. One of these people is largely forgotten, but his influence is still felt.

Charles Rummel was born in Germany in 1867. He emigrated to the United States in 1888 as a 21-year-old and became a naturalized citizen. Although arriving with an 8th grade education, he had a deep interest in insects and became a self-taught entomologist. He lodged with a family in Green Village (just down the street from where Helen Fenske and her family would later live) on the edge of the Great Swamp where he spent much of his time finding specimens and amassing an amazing collection.

He made a living making scientific tools and providing moths, butterflies, caterpillars, and cocoons for high schools, colleges, and museums. He became a member of the Newark Entomological Society (which was founded in 1882 and still exists today) and gave lectures at local high



Charles Rummel raising moths in the
Great Swamp (Chatham Township
Historical Society)

schools and led tours in the swamp. Parts of his collection were exhibited at libraries and museums. One of those museums was the Newark Museum, that from its beginning in 1909 has always been dedicated to natural science as well as art.

From the May 1931 edition of *The Museum*, the monthly bulletin of the Newark Museum Association, comes an article about an exhibit called *Butterflies and Moths*:

A loan collection of mounted caterpillars or larvae of great importance for its completeness in presenting New Jersey specimens is being shown in the Science Department on the third floor. Life histories of several insects are exhibited in conjunction with the collection, which has been lent by Mr. Charles Rummel, president of the Newark Entomological Society.

The collection contains 205 species, all of this state. Only 23 species are the larvae of butterflies; the others are the larvae of moths. Numerous of these specimens have not been seen even by collectors. Many were obtained only by raising the larvae from the cocoon or from the female.

The caterpillars have been preserved in an ingenious manner. Just the skins remain and these are inflated and dried. This method of mounting was developed by Mr. Rummel and is a most effective method of displaying them.

Each of the 205 species of caterpillars in the collection has an interesting history. They all feed upon different plants in varying degrees, they are unlike in coloring and structure, sometimes the larvae rest in a cocoon over the winter or perhaps the eggs carry on the family.

This collection represents 40 years of preparation, involving breeding, research, collecting trips, and infinite care and patience.

It offers an unusual opportunity to students of the insect life of this state.

Some students were exceptionally lucky. They were local children who grew up near, and often in, the swamp. According to Ruth Churchill, longtime official Chatham Township Historian, a group of her children and their cousins first encountered Rummel one day, around 1938, when they were deep within the swamp. He invited them to come and see his collections.



Lincoln Brower and Jane van Zandt, 1949

Lincoln Brower, who was about 7 years old at the time, recalled years later, “At our first meeting, this stern old German took us up to his laboratory and opened a large case full of glass covered entomological drawers. My heart rate increased a hundred-fold as he pulled out case after case of perfectly mounted specimens, elegantly arranged according to the most current entomological ‘check list’ of the Lepidoptera of North America.”

He went on to say, “Here were all the known butterfly species in New Jersey, the biographic limit he had set for himself. Since he already had them all, as well as most of the showy moths, he was now concentrating on raising the different species and learning their life histories.”

Brower’s son, Andy, remembers his father telling him about the scientific tools. “Charles Rummel...had a penchant for building ingenious gadgets, including an air pump to blow up caterpillars, beautifully crafted pinning boards, and a trigger-and-trap killing jar lid apparatus, for capturing...moths with one hand from a baited tree, which was otherwise a three-handed operation (one to hold the jar, one the lid, and one the flashlight). Many of these treasures are still in use.”

Chatham schoolmates, Lincoln Brower and Jane Van Zandt both had a strong interest in nature and were mentored by Charles Rummel. They graduated from Chatham High School in 1949, three years after their advisor had passed away. Lincoln went on to Princeton and Jane to Wellesley. Both majored in biology and earned their degrees in 1953, and then got married. They went on to Yale, each earning Doctorates in Zoology.

Jane Van Zandt Brower’s Ph.D. research was on viceroy butterflies and their mimicking of monarchs. Monarch caterpillars eat only milkweed which makes them, and the butterflies they become, toxic and avoided by predators. The wing pattern of viceroys mimics monarchs and helps protect them from their predators. Her published scientific papers are still widely cited.

Lincoln Brower’s interest was monarchs and their extraordinary migration. He spent his long career advocating for their conservation and the protection of the environments along the migration route through the United States to their overwintering site in the mountains of Mexico.

Jane and Lincoln Brower’s son, Dr. Andrew Van Zandt Brower, is also an entomologist.



Monarch or viceroy? Who’s who?



STUDY TRIP PLANNED
 An insect study trip through Green Village has been planned for Sunday by the Watchung Nature Club. Charles Rummel will lead the group, and the trip will include a campfire supper in the woods. Those planning to make the trip will meet at City Hall at 2 p. m. Sunday. Members will make arrangements through Mrs. Roderick Donley, telephone Plainfield 6-2307J.

Announcement in Courier-News, August 18, 1938

Who’s There?

A grey tree frog is at home in Great Swamp where it dines on ants, spiders, mites, and snails. They, in turn, are eaten by raccoons, opossums, snakes, and skunks.

Photo by Lisa Florio.



GREAT SWAMP BUTTERFLY COUNT

By Paul Lauber, Secretary, Friends of GSNWR; Photos by Corinne Errico, Volunteer

On June 28, the annual North American Butterfly Association (NABA) "Fourth of July Butterfly Count" took place. Begun in 1975 by the Xerces Society, NABA has sponsored it since 1993. The first Great Swamp Butterfly Count occurred in 1994. This year a team of eleven counted in four unique sections within Great Swamp, under the direction of Ben Barkley of the Somerset County Environmental Education Center.

According to the NABA websites, the goal of the annual counts is to 1) gather butterfly species data & trends, 2) increase public awareness and interest in butterflies, and 3) socialize and have some fun (and good clean fun at that!).

Ben reported, "Overall, there were 32 species reported totaling 734 adult butterflies. This is one species lower than last year but 95 more individuals. Below is a breakdown with the species, number reported, and number of sections reporting each species in parentheses."



Eastern tailed-blue

Eastern Tiger Swallowtail—1 (1)
 Spicebush Swallowtail—1 (1)
 Cabbage White—165 (4)
 Clouded Sulphur—18 (4)
 Orange Sulphur—21 (4)
 Banded Hairstreak—12 (4)
 Oak Hairstreak—1 (1)
 Red-banded Hairstreak—3 (2)
 Eastern Tailed-Blue—24 (4)
 Spring Azure—20 (4)
 Appalachian Azure—3 (1)
 Appalachian Azure caterpillar—3 (1)
 American Snout—1 (1)

Great Spangled Fritillary—36 (4)
 Pearl Crescent—22 (3)
 American Lady—1 (1)
 Red Admiral—1 (1)
 Appalachian Brown—26 (4)
 Little Wood-Satyr—139 (3)
 Common Wood-Nymph—12 (3)
 Monarch—20 (4)
 Silver-spotted Skipper—23 (4)



Silver-spotted skipper

Horace's Duskywing—2 (2)
 Wild Indigo Duskywing—1 (1)
 Least Skipper—49 (4)
 Northern Broken-Dash—22 (4)
 Little Glasswing—81 (4)
 Mulberry Wing—1 (1)



Appalachian brown

Hobomok Skipper—1 (1)
 Zabulon Skipper—2 (1)
 Dion Skipper—3 (1)
 Black Dash—5 (2)
 Dun Skipper—17 (3)



Pearl Crescent

GREAT SWAMP DIARY: A NEW FEATURE FOR YOU AND BY YOU

In this issue of *Swamp Scene*, we introduce you to a new feature, *Great Swamp Diary*, modeled after the *Metropolitan Diary* of the *New York Times*. Each issue we will share your stories about a special memory, a sighting that amazed you, a retelling of a bit of Refuge history, or a unique experience you had at Great Swamp NWR. Please send your vignettes to Kathy Woodward <friends@friendsofgreatswamp.org> for consideration.

Dear Diary,

A few weeks ago, on a fine spring day as we were gathering for the Friday Morning Walk, I tripped over a tiny bit of curbing and fell down hard. I was immediately surrounded by many kind helping hands that got me up and over to a bench. Ice packs appeared out of in-car first aid kits, as did gauze to hold them in place. There was even a pillow to rest my injured hand upon. And there was a doctor too! You just don't know what your fellow walkers do in their other lives.

As my sister drove me away to Urgent Care, she remarked, "If I was ever stranded on a desert island, I would want it to be with those people!"

P

FRIENDS OF GREAT SWAMP NATIONAL WILDLIFE REFUGE

MEMBERSHIP APPLICATION

The Friends of Great Swamp is an independent, non-profit organization organized in 1999. Our operations and activities are managed by an all-volunteer Board of Directors. As our mission statement indicates, our focus is Refuge-centric — we support the goals, projects, and mission of the Great Swamp National Wildlife Refuge.

To become a member of the Friends of Great Swamp, fill out the information on this form, and mail with your check to:
 Friends of Great Swamp National Wildlife Refuge
 32 Pleasant Plains Road, Basking Ridge, New Jersey 07920

ANNUAL MEMBERSHIP APPLICATION

- | | | |
|--|---|--|
| <input type="checkbox"/> EASTERN BLUEBIRD—\$15-\$49 | <input type="checkbox"/> PAINTED TURTLE—\$50-\$99 | <input type="checkbox"/> RIVER OTTER—\$100-\$249 |
| <input type="checkbox"/> MONARCH BUTTERFLY—\$250-\$499 | <input type="checkbox"/> WOOD DUCK—\$500 + | <input type="checkbox"/> New Member? |

TOTAL ENCLOSED \$ _____

You may also join online at www.friendsofgreatswamp.org

Name _____

Address _____

City _____

State, Zip Code _____

Phone Number _____

E-Mail Address _____

Gift Membership From: _____

(If this is a gift, please include your full name on the line above so we may notify the recipient)

We need more Friends ...
Become a Friend Today—or,
Give a gift membership to a friend.

Thank you



Memberships help support the projects and programs at Great Swamp National Wildlife Refuge.

Membership Benefits

- The Swamp Scene Newsletter.
- A 10% discount in Friends Nature Shop.
- Notifications of upcoming events.
- Satisfaction in knowing you are helping protect wildlife and wild places while safeguarding a national treasure for future generations.

Friends of Great Swamp NWR
32 Pleasant Plains Road
Basking Ridge NJ 07920

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Chester NJ 07930



THE SWAMP SCENE JULY 2025

Friends of Great Swamp National Wildlife Refuge
Is an independent, volunteer, non-profit organization
dedicated to

Promoting stewardship of the natural resources of the Refuge,

Inspiring an appreciation of nature through education and outreach,

Engaging in partnership activities that support and enhance the Great Swamp National
Wildlife Refuge and the National Wildlife Refuge System.



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