



the Swamp Scene

friends of great swamp national wildlife refuge

ISSUE FIFTY ONE
JULY 2016

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MAINTAINING MORE THAN 10 MILES OF GREAT SWAMP TRAILS

By Jim Mulvey and Jane Bell, Co-chairs, Friends' Trail Blazers Committee

The Friends of Great Swamp and the Refuge staff joined forces earlier this year to make sure that the trails throughout the Management and Wilderness Areas are safer, cleaner and better kept for the thousands of people who hike them each year.

On March 12th, a special volunteer orientation was held at the Visitor Center to go over goals and expectations for the newly formed Trail Maintainers group. Previous trail maintainers teamed up with new volunteers and pairs were assigned to ten different segments of trails in the Refuge. The trail maintainers will be

seeing to their assigned sections on a designated schedule over the course of the year. Items that are considered to be higher priority in maintaining the trails include keeping them pruned and cleared for easy access, collection of litter, making sure that colored blazes are always visible on the Wilderness trails, and that maps are well stocked at the kiosks.

In the event there is an issue that is beyond the capabilities of the volunteers, the trail maintainers communicate the defect that they encountered to the staff, who in turn either deal with it directly or assign these as projects for the many

corporate work days that take place every year in the Great Swamp. The New York-New Jersey Trail Conference is another player that refuge staff can rely on for larger projects.

In an effort to maximize productivity among the volunteers, trail maintainers were invited to attend the invasive species Strike Team Training Session on April 1. This session educated volunteers on some of the more prevalent invasive species found in the Great Swamp, and equipped the trail maintainers with a basic understanding of six key invasive species to look for as they worked on their trails. Every time the trail maintainers complete their work, they fill out a Trail Maintenance Form that includes a breakdown of what they did and observed, but also serves as a communication to the Strike Team in the event that some invasive plants need eradication. By combining the efforts and observations between these two dynamic volunteer groups, the refuge is sharing resources in a more efficient manner.

Does this sound interesting and something that you might want to get involved in? The Refuge and Friends of Great Swamp are always looking for new volunteers!



Wilderness Area trails present a special challenge for trail maintainers. By law, no power equipment is permitted, so when a tree falls and blocks the trail, volunteers must use hand tools, like this crosscut saw, to clear the trail. Photo by George Solovay

IT'S NOT JUST A DAY OUT OF THE OFFICE—IT'S A WIN – WIN FOR EVERYONE

It's amazing what an enthusiastic and motivated group of volunteers can accomplish. Great Swamp NWR has been fortunate to have been selected by a number of corporations and schools as a place to donate their time and energy. Whether it's a community service day, day out of the office, teambuilding exercise, or Earth Day celebration, these groups really knock off large projects in a short period of time. Visitor Services Manager Jonathan Rosenberg summed it up:

"Absolutely, we like it. It brings visitors to the Refuge, gets work done on the ground, sells our mission and gets our conservation message out there in the corporate world. It's all good stuff."

*"Teamwork
divides the task and
multiplies the success."*

On a cold but beautiful day in early April, over twenty employees from the **BASF** offices in Florham Park participated in their annual Corporate Work Day at Great Swamp NWR. A small employee group helped refuge volunteer carpenters repair the boardwalks at the Wildlife Observation Center. The rest of the group worked with volunteers from the Friends of Great Swamp to clear brush and debris from the White Oak Trail. Thank you BASF.



On Saturday, April 16, Great Swamp NWR was host to **BINGHAMTON UNIVERSITY ALUMNI** during their annual Alumni Global Day of Service. Twenty volunteers including alumni and their families joined the Friends of Great Swamp on a beautiful spring day at the Visitor Center. The volunteer project was to expand the native plant gardens and create a border around the pollinator mound to check the encroach-

ment of invasive plants and to reduce lawn mowing area. Following the very successful work project, the volunteers enjoyed a brown bag lunch and some good company. This is the 2nd annual Alumni Global Day of Service sponsored by the University. During this weekend in April, the university supports alumni-led community service projects around the world. What is amazing is that even though most of the alumni did not know each other, and graduated in many different classes, they worked smoothly together as a team and accomplished an incredible amount of work at the Refuge. What a great idea!

On Friday, May 20, fifteen students from **MADISON HIGH SCHOOL** spent their Community Service Day working on two projects at the Visitor Center. One project involved an expansion of the Monarch Milkweed Garden, turning the soil and getting rid of multiflora rose and other deep rooted plants—really hard work. More work needs to be done before the swamp milkweed plants can be added, but it was a great start. The other project was the replenishment of wood chips on the Nature Detective Trail. The Friends greatly appreciate the dedicated work of these teens and their commitment to the environment.



On Saturday, April 23, over 35 employees, family, and friends from

BROTHER INTERNATIONAL CORPORATION joined in a fifth year of supporting Friends of Great Swamp NWR.

The team of volunteers blazed through the Bockoven Trail planting native Spicebush, mulching, edging the path, and adding stone dust to the trail. In addition, this year a children's program was added. The children joined the Junior Refuge Manager and Frog Call programs in the Discovery Den, took part in a bird identification program and then took a tour on the grounds of the Visitor Center to try out the things they learned. After hours of hard work, everyone enjoyed gathering at the pavilion for a cookout and some well-deserved rest. The Friends of Great Swamp continue to be amazed and grateful to the Brother International Corporation's New Jersey employees, family and friends. The Bockoven Trail has never looked better—thank you.



On Wednesday, May 4, **HENKEL CORPORATION** employees from Bridgewater decided to work at Great Swamp NWR in support of their sustainability initiative. They donated a huge pile of mulch and then proceeded to decimate that same pile as 16 employees hauled wheelbarrows loaded with mulch to edge the Turkey Mound, replenish the paths in the bird garden, and



create a landscape area around the new gas generator. Neither their enthusiasm nor their smiles faded as the Friends volunteers kept pointing out "just one more" area that needed mulch. It was their first work day at Great Swamp NWR and we certainly hope it's not their last! Thank you Henkel.

What a day for **AMERICAN EXPRESS** on June 23, when 13 employees in the Consumer and Commercial Lending group came to Great Swamp for a team-building work day. The task was to work on the White Oak Trail which, this past spring, had been impassable at times due to very wet and muddy conditions. The idea was to cover wet spots with wood chips and add "tree cookies" (slices cut from fallen trees) to serve as stepping stones. The group worked hard, enjoyed a picnic lunch in the pavilion followed by a tour of the Visitor Center, and were also excited to discover a number of turtle eggs which had been laid on the wood chip pile. What a welcome change from the concrete jungle (Manhattan) and what an improvement for the White Oak Trail. Thank you American Express.



FOXES, OTTERS, AND BEARS, OH MY: KEY FINDINGS FROM A 2-YEAR PREDATOR STUDY

By Casey Wagnon, Graduate Student, Frostburg State University

For those readers that are not already aware, in 2013 I was privileged to lead a 2-year study investigating the mid-to-large sized mammalian predators (hereafter predators) occupying Great Swamp National Wildlife Refuge (GSNWR). I was particularly interested in documenting the suite of predators using habitat around the Refuge's five artificial wetland impoundments and evaluating the diets of predators. Specifically, I used 50 camera traps to conduct surveys (May 2013 – February 2015) to detect the 10 predators thought to occur at GSNWR: northern raccoon, red fox, grey fox, eastern coyote, American mink, northern river otter, striped skunk, long-tailed weasel, American black bear, and Virginia opos-

sum. I also used scat analysis techniques to investigate the summer (May – August) feeding habits of otters, red foxes, raccoons, coyotes, and mink, with a specific focus on identifying key avian (i.e. waterfowl) predators.

Over the duration of 10,338 camera-trap days, camera-traps detected 48 different vertebrate species, including eight of the ten predators thought to occur at GSNWR: raccoon, red fox, otter, coyote, opossum, mink, black bear, and long-tailed weasel. The striped skunk was not documented during our formal surveys; however, a skunk was detected with a camera trap placed at a den site in June 2013. Gray foxes were not detected during the two year period and are apparently rare at the Refuge.

Relative to the other predators, raccoons and red foxes were the most abundant and widely distributed species in the survey area. The two species accumulated the majority of detections (93%) and were documented at most of the camera-trap sites (98% and 82%, for raccoons and foxes, respectively). Interestingly, although comparatively uncommon, surveys also provided evidence that (1) the Refuge contained an established population of river otters, (2) non-native rats and a domestic house cat occurred on the Refuge, and (3) the survey area was used by six black bears (including a female traveling with three cubs), over the two year period. *(continued on next page)*



From top left and going clockwise, images of a: red fox and raccoon encounter on a service road, a mother black bear with three cubs at a bait station, a red fox carrying an egg on a service road, and two river otters at a latrine.

PREDATOR STUDY *(continued from page 4)*

The diet analyses of 283 scats indicated that avian prey, and thus waterfowl, was not a primary food item for predators (avian remains occurred in 10% of the scats). However, of the 29 scats that contained avian prey, 24 (83%) were from red foxes. Avian predation by foxes also was supported by the image dataset. For instance, 13 images recorded a red fox carrying a bird species or an egg [6 eggs, 5 waterfowl, 1 rail, and 1 wild turkey poult]. However, the most common prey items collected in fox scats were insects (74%) and mammals (66%); avian remains occurred in scats about as often as fruits/seeds (32% and 30%, respectively). Mink, coyotes, raccoons, and otters also consumed birds, but at a much lower rate than red foxes.

Although red foxes at GSNWR consumed avian prey at similar frequencies

to other red fox populations in eastern North America, due to the relatively high abundance of foxes around impoundments, impacts on avian prey—particularly waterfowl populations—by foxes could be greater than for other predator populations. However, additional research involving camera-traps placed at waterfowl nest sites and scat surveys during the primary nesting season would be needed to fully understand trends in avian predation by foxes and raccoons, the other abundant and notable waterfowl predator (primarily eggs). Also, camera trap surveys conducted on the Wilderness Area of the Refuge would provide a more accurate and robust assessment of predator occurrence at GSNWR.

Ultimately, outcomes of this investigation provide an important foundation for understanding the composition, relative

abundance, and frequency of avian predation of predators occupying habitats around impoundments. Further, the conclusions and datasets from this study can be used to help guide and inform the long-term management strategies outlined in the Refuge's Comprehensive Conservation Plan (CCP).

In addition to documenting predator occurrence and feeding habits at GSNWR, I also compared and evaluated three camera-trap survey designs to detect predators, including a new and innovative technique involving cameras positioned at otter latrines. Currently I am submitting my thesis research for publication in scholarly journals which I hope will prove useful to other wildlife biologists and natural resource managers outside of Great Swamp National Wildlife Refuge.

NEW NATIONAL WILDLIFE REFUGE IN ILLINOIS

Kankakee National Wildlife Refuge and Conservation Area was formally established on May 25 with acceptance of a 66-acre donation from the nonprofit Friends of the Kankakee. The refuge, in the Kankakee River basin of Iroquois County, IL, is not yet open to the public.

"The Kankakee River Basin represents a unique Midwestern landscape," noted U.S. Fish and Wildlife Service Regional Director Tom Melius. "I'm very pleased to continue working with the local community and partners to conserve priority wetlands, remnant oak savanna and grasslands as well as enhance outdoor recreational opportunities."

Establishing the refuge and conservation area recognizes decades of work with conservation partners. The 66-acre acquisition was funded, in part, by the Illinois Clean Energy Community Foundation, which works to advance the development and use of renewable energy resources and protect natural areas and wildlife habitat across Illinois.

As part of the Service's commitment to working closely with the community, it has joined with nine other organizations as well as local residents to begin creating a sustainability plan in the Hopkins Park/Pembroke Township area in Kankakee County. The plan will allow local residents and organizations to collaborate and shape the future of conservation.



National wildlife refuges not only sustain and enhance natural resources, but they can also add to the economic vitality and quality of life for communities. Learn more about the Kankakee National Wildlife Refuge and Conservation Area online: www.fws.gov/refuge/kankakee/

FOR THOSE WHO KEEP COUNT

Kankakee is the 564th national wildlife refuge. However, on June 28, the U.S. Fish and Wildlife Service accepted a 30-acre conservation easement donation near Brigham City, Utah. This contribution formally establishes the Bear River Watershed Conservation Area as the 565th national wildlife refuge.

REFUGE VOLUNTEERS AND FRIENDS DONATE 12,564.5 HOURS IN FISCAL YEAR 2015

The 30th annual Volunteer and Friends Recognition Event was held on Saturday, June 4, 2016 to recognize and celebrate the exceptional contribution of volunteers and Friends to Great Swamp National Wildlife Refuge.

This year the event was again held in the Richard J. Guadagno Pavilion where 100 volunteers, staff, interns and guests enjoyed a delicious buffet dinner followed by the awards ceremony.



150 Hour Pin Recipients (left to right) Elaine Weyuker, Kathie Willwerth, Matt Steffens, Barbara Whitmore, Jim Marquis, Gail Petrillo, Tom Ostrand, Bill Smullen



Milestone Awards (left to right)
5,000 hours: Leo Hollein, 6,000 hours: Kathy Woodward,
1,000 hours: Rich Dufort



THE PRESIDENT'S VOLUNTEER SERVICE AWARD
Refuge Manager Mike Horne (right) presents Leo Hollein with this Presidential recognition for his inspiring volunteer contributions.

NOTABLE VOLUNTEER MILESTONES

100 HOUR CLUB

Jane Bell, Barry Bowman, Ray Cole, Stephen Herdman, Terry Kulmane, Jolynn Schmidt, Janet Stadelmeier, Kent Stevens, Ed Sullivan

150 HOURS

Terry Carruthers, Charles Gould, Ellen Greenhorn, Mary Beth Hansbury, Jim Marquis, Claudia Osborn, Peter Osborn, Tom Ostrand, Gail Petrillo, Gina Smith, Bill Smullen, Matt Steffens, Elaine Weyuker, Barbara Whitmore, Kathleen Willwerth

250 HOURS

Ann Campbell, Janis Cole, Judi DiMaio, Anne Hebenstreit, Helen Hoffman, Jim Mulvey, Larry West

500 HOURS

Joseph Balwierczak, Bill Koch, Walter Willwerth

1,000 HOURS

Rich Dufort

2,000 & 2,500 HOURS:

Randi Emmer

5,000 HOURS: Leo Hollein

6,000 HOURS:

Kathy Woodward

*Active volunteers with the total number of hours contributed
since becoming a volunteer (through March 31, 2016)*

| | | | |
|----------------------------|---------------------------|--------------------------|----------------------------|
| Sonya Ahamed (3.5) | Alyssa Frediani (520) | Andy Lamy (14) | Edythe Risberg (1,438) |
| Susan Ahlstrom (6.5) | Charlie Friedman (49.5) | Lorrie Lane (287.5) | John Rolfe (2) |
| Patrick Ambrosio (36.5) | Susan Garretson Friedman | Bonnie Langdon (47) | Carolyn Rubinfeld (64) |
| Garry Annibal (72) | (2,315.5) | Schwinne Lee (7.5) | Michael Rubinfeld (18.5) |
| George Apgar (36.5) | Laura Fuhro (92) | Ethan Lim (3.5) | Michael Sagan (46) |
| Joann Apgar (319.5) | Melissa Gallo (1,005.5) | Winnie Lim (1.5) | Deb Scala (1,766.5) |
| Fabian Aquino (7) | Pat Garvin (1,191) | Robert Lin (44.5) | Joe Scala (422) |
| Pete Axelrod (431.5) | Jim Gilbert (15) | Daria Lisco (30.5) | Nancy Schenck (2,335) |
| Joseph Balwierczak (582.5) | Lynda Goldschein (36) | Rich Lisco (2) | Alex Schmidt (128.5) |
| Jane Bell (141.5) | Russell Gonier (52) | Garrett Lukaszek (7) | Jolynn Schmidt (100.5) |
| Steve Bell (2) | Charles Gould (225) | Jim Marquis (223) | Judy Schmidt (6,846.5) |
| Imen Ben Niticha (9) | Laurel Gould (8,789) | Judy Marsh (24.5) | Ben Schumer (13.5) |
| John Berry (446) | Kimberle Gray (1.5) | Ernie Mazzarisi (36) | Ginnie Scott (44) |
| Daniel Bertram (1.5) | Ellen Greenhorn (193) | Julie McGovern (5) | Emily Scully (487.5) |
| Ian Bertram (37) | Steve Gruber (837.5) | Betty Mills (37.5) | Elaine Seckler (1,253) |
| Moir Blake (48) | Olivia Haller (3) | Allegra Mitchell (74) | Andre Shalit (6) |
| Betsy Boles (618) | Jim Halsey (45.5) | Reshma Mongia (22.5) | Kyle Shalit (6) |
| Dan Boston (128) | Mary Beth Hansbury (219) | Sudhir Mongia (3) | David Sharpe (11) |
| Lois Boston (130) | Lois Harold (7.5) | Cody Moore (500) | Donna Sharpe (47.5) |
| Brenda Bourassa (60.5) | Anne Hebenstreit (284) | Ruth Morgan (866) | Christine Shoengold (2.5) |
| Barry Bowman (100.5) | Robert Heim III (1.5) | Dan Morley (6.5) | Mark Shoengold (2.5) |
| Ann Breault (10) | George Helmke (1,087.5) | Evelyn Morton (62.5) | Shary Skoloff (11.5) |
| John Breault (493) | Greg Henderson (417) | Bridget Mracek (381.5) | Gina Smith (174.5) |
| Jennifer Breen (460) | Jordan Henry (12) | Fiona Mulvey (14.5) | Bill Smullen (209) |
| Maggie Brucker (21.5) | Justin Henry (18.5) | Heather Mulvey (5.5) | Dorothy Smullen (3,343) |
| Bridget Burns (5.5) | Mayra Henry (12.5) | Jim Mulvey (366) | George Solovay (1,829.5) |
| Lillian Cahill (3) | Anna Herbotzheimer (18) | Wendi Mulvey (44) | Sharon Sperduto (3.5) |
| Ann Campbell (268) | Stephen Herdman (128) | Kate Murphy (2.5) | Janet Stadelmeier (101) |
| Mark Canavan (48) | Jack Higgins (1,948.5) | Kevin Murphy (2.5) | Chris Stadtmueller (289) |
| Terry Carruthers (183) | Maryann Higgins (110) | Ruth Nahm (34) | Matt Steffens (180.5) |
| Teri Catalano (594.5) | Helen Hoffman (329) | Joe Nally (292) | Kent Stevens (143) |
| Janis Cole (258) | Bob Hofmann (458.5) | Laura Nally (3,800.5) | Ed Sullivan (131.5) |
| Ray Cole (104) | Victoria Hogg (19.5) | Susan Nanney (50) | Rachel Swanwick (481.5) |
| Lora Cooper (71) | Leo Hollein (5,165.5) | Lorraine Novinski (40.5) | Elaine Taub (565) |
| Scott Czarkowski (4.5) | Linda Jadach (30) | Amanda O'Connor (9.5) | Andrew Tsai (20) |
| Christina DeGaray (4.5) | Susan Katz (65.5) | Arlene O'Connor (9.5) | Emma Wahlig (22.5) |
| Trevor DeSero (3) | Jane Kendall (1,308) | Bonnie O'Connor (31) | Bob Waldstein (1.5) |
| Heather Desko (511.5) | Sandy Ketelsen (13.5) | John O'Connor (18.5) | Ellen Waldstein (1.5) |
| Jim Detizio (1,434.5) | Sara Ketelsen (11) | Kristen Oplinger (45.5) | Mary Jane Walsh (388.5) |
| David Dietz (89.5) | Neil Klingenburg (758) | Brian Osborn (116.5) | Bryant Wang (3) |
| Judi DiMaio (269.5) | Bill Koch (560.5) | Claudia Osborn (193.5) | Esther Warner (476) |
| Allen Dreikorn (6.5) | Kathy Kopec (28.5) | Peter Osborn (185.5) | Barbara Wefing (3) |
| Patricia Dreikorn (6.5) | Shmuel Korengut (49.5) | Tom Ostrand (185) | Larry West (321) |
| Rich Dufort (1,101) | Alice Koster (10.5) | Jane Parks (4) | Elaine Weyuker (155) |
| May Duttonhoeffer (55.5) | Murali Krishna (9) | Candace Paska (692.5) | Barbara Whitmore (206) |
| Lucille Dwyer (44.5) | Melene Kubat (15) | Chris Petrillo (113.5) | Chuck Whitmore (1,029) |
| Tyler Eccles (10) | Peter Kubat (19.5) | Gail Petrillo (167) | Kathleen Willwerth (169.5) |
| Georgia Eisenhart (256) | Zaven Kubat (19.5) | Louis Pisane (3,964) | Walter Willwerth (574.5) |
| Randi Emmer (2,757.5) | Terry Kulmane (133.5) | Peg Ponzio (5) | John Wilmot (1,869) |
| Nancy Felicito (1,143) | John Kunkel (596.50) | Kevin Potts (480) | Carl Woodward (605) |
| Paul Fenske (751.5) | Kevin Kunkel (3) | Sandra Pruzansky (123.5) | Kathy Woodward (6,023) |
| Don Florio (53) | Bonnie Kushnerick (112.5) | Alice Qian (8.5) | Don Young (4) |
| Paul Ford (318) | Sue Lamothe (20) | Gail Rapaport (584) | Bob Yurkovic (9) |
| | | Fernanda Reisinger (3.5) | Sue Zwick (12) |
| | | Roberto Reisinger (6.5) | |
| | | Donna Ricca (25) | |

FOXES IN THE REFUGE ARE RED

Story and photos by Leo Hollein



Both the red fox (*Vulpes vulpes*) and the gray fox (*Urocyon cinereo-argenteus*) are listed as residents in the Great Swamp NWR mammal booklet. I have seen many red foxes while participating in the evening spotlight surveys of the deer population in August. I have also seen them and their young (kits) at dawn, dusk and even during the day. I have never observed a gray fox in the Refuge.

Casey Wagnon is a graduate student who did his master's thesis on studying carnivores in the Refuge. As part of his study Casey used trail cameras to photograph carnivores at a variety of habitats and locations throughout the Refuge. These motion activated trail cameras took over 6,500 pictures of animals in the Refuge. Nearly 2,400 images of red foxes were taken. Only raccoons (about 3,500 images) were photographed more often than red foxes. No gray foxes were photographed during this two year study. It is safe to say that the only gray fox in the Refuge is the

attractive, mounted specimen in the Library at the Visitor Center.

The red fox was originally from Eurasia and colonized North America during glaciation periods when land routes between the Eastern and Western hemispheres were present. Prior to their colonization of North America, the red fox was found primarily in boreal forests and the gray fox in deciduous forests. However, the red fox is now dominant in most of the eastern United States since they have adapted to the habitat created by human development and urbanization. Gray foxes are prevalent in heavily wooded and semiarid habitats found in the Southern and Western states.

A healthy adult red fox is shown in the photo above. It has an elongated body and relatively short limbs. The red fox is less than two feet high at the shoulder. Their bushy tail is longer than half their body length and reaches the ground when the fox is standing. They are too small to

pose a threat to humans. The red fox has a fairly uniform orange-red fur on its back, sides and head. It has white fur under its neck and on its chest. Its legs, feet and ears are black. They are very agile. Red foxes can jump over a six feet high fence. They also can swim well as the ginger bread man found out to his demise.

As part of his research Casey also evaluated the category of prey taken by the Refuge carnivores. Samples of scat from the various predators were collected and analyzed. Red foxes had the most varied diet. They are omnivores. The frequency of food items found in 74 red fox scat samples was:

- Insects - 74%
- Mammals - 66%
- Birds - 32%
- Fruit/seeds - 30%
- Crawfish - 5%

Red foxes had by far the highest percentage of insects, birds and fruit/seeds than any of the other predators. The picture below is a night photo of a red fox carrying a captured bird taken by a one of Casey's trail cameras. Foxes had the second highest

percentage of mammals in their diets. Coyotes had mammals in 96% of their scat. River otters and raccoons had crawfish remains in 98% and 88% of their samples respectively. Fish remains were found in 55% of the otter samples. None were found in any of the red fox scat. Black bear and opossum scat were not analyzed as part of this study.

Red foxes use burrows during the breeding season. They may also have dens under buildings. There are several burrows around the Refuge. One burrow has been used by foxes to raise their kits for a number of years. The burrow was dug into the side of a small hill in a field. Outside the breeding season, most red foxes live in the open, in densely vegetated areas.

Red fox kits can be friendly towards people. Please avoid close contact and **never** feed kits or adult foxes.

Note: See story on page 4 for Casey Wagnon's research results.



HIGH SCHOOL SENIORS SUPPORT REFUGE THROUGH INTERNSHIP

Meet Lillian Cahill and Olivia Haller



ever had high school internships but the answer was “unfortunately, no”.

In January, 2016, Olivia and Lillian reached out to Kathy and asked once again if they could intern at the Refuge for their senior project. After discussion with the Friends board, Olivia and Lillian were accepted as high school interns. This title entailed volunteering at least thirty hours a week doing various tasks, including greeting at the Visitor Center and at the Wildlife Observation Center, along with facilitating volunteer-led walks around the Wildlife Observation Center. Of course there was the stereotypical intern work, such as making copies and organizing papers, but none of that limited the amount of knowledge they gained from

this experience.

Olivia has been an advocate for the environment for most of her life. She has been fascinated by sustainability and the nature that surrounds her. She will be studying environmental science at Rutgers University School of Environmental and Biological Sciences in the fall. With this summer internship, she has had the opportunity to visit the landfills and superfund sites on the Great Swamp property with the contaminants biologist, George Molnar. This has given her the opportunity to talk to an expert in her field of interest and to actually experience what she wants to do with her career in environmental science.

Ever since Lillian's first visit to the Bronx Zoo in New York, she knew she wanted to spend her time around wildlife for the rest of her life. She will attend Ohio University in Athens, Ohio in the fall, majoring in Wildlife and Conservation Biology and minoring in Spanish. Lillian has wanted to do research on endangered species for as long as she can remember. This internship confirmed that she was correct in choosing that as a future career path. Lillian had the opportunity to work alongside refuge biologists who are doing ongoing research on wood turtles, a New Jersey state-threatened species. This simulates most of the work that Lillian hopes to do with her degree in wildlife and conservation biology. She also had the opportunity to check bluebird boxes around the Refuge with volunteers Leo Hollein and Jim Mulvey, who gave her a multitude of information about the birds and their habitats. She shared this information with other people when she took part in outreach programs. She and Olivia visited the Veterans Administration Hospital with other volunteers to talk about the Great Swamp. Lillian didn't originally think about outreach as something she was interested in but as the internship progressed, she started to love talking about Great Swamp National Wildlife Refuge.

The five week internship was beneficial and a once-in-a-lifetime experience for which Olivia and Lillian will be forever thankful. Both interns plan to continue volunteering and contributing to the Great Swamp National Wildlife Refuge.

In the past, Great Swamp National Wildlife Refuge has provided college internships throughout the summer. However, this year two high school interns were added to the mix. Lillian Cahill (*left*) and Olivia Haller (*right*) have been avid volunteers since their New Providence High School field trip in the spring of 2015 created the Monarch butterfly garden. The garden flourished and brought many Monarchs to the swamp.

Last summer Olivia and Lillian volunteered at invasive species work days to remove primarily multiflora rose and Japanese barberry. They asked Friends' volunteer Kathy Woodward if the Refuge

*“Just living is not enough,” said the butterfly.
“One must have sunshine, freedom, and a little flower.”*

—Hans Christian Anderson



WON'T YOU CONSIDER A \$25.00 DONATION FOR CONSERVATION AND REFUGES?

By *Laurel Gould, Volunteer*

If you're like me, every year you set aside a certain amount of money to donate to worthwhile causes. You probably do some research on the organization or cause to make sure your donation is being used wisely, for the purpose you intended. High on my list every year is a purchase of the Federal Duck Stamp. If you value and visit national wildlife refuges, it should be high on your list too. The \$25.00 that you spend helps purchase land for national wildlife refuges, certainly a worthwhile investment.

This donation really does support the cause. Ninety-eight percent of the proceeds from duck stamp sales go to the Migratory Bird Conservation Fund, which supports acquisition and conservation easements for the National Wildlife Refuge System. So of your \$25.00 donation, \$24.50 goes to purchase land. That's a pretty efficient use of your donation. And instead of notecards, or return address labels, or yet another calendar, you receive a miniature piece of wildlife art, the work of some of the best wildlife artists in the country. Display it proudly to show your support. The current year's stamp also serves as an entry pass to any refuge that charges an admission fee—an added bonus.

The Federal Duck Stamp is one of the most successful conservation programs in our history. Since its inception in

1934, the stamp has raised more than \$800 million to protect more than 5.7 million acres of habitat for birds and other wildlife. In fact, 2,874 acres at Great Swamp were purchased with duck stamp funds back in the 1960s. That's one-third of the entire (nearly) 8,000 acre Refuge—thanks to people who purchased Federal Duck Stamps.

Every year, the U.S. Fish and Wildlife Service holds a competition to select the winning art for the following year's stamp. This past year, there were 157 entries and, after the judging was finished, three brothers from Minnesota made history as they took the top three spots in the contest. The winner was Joseph Hautman with a pair of trumpeter swans, his fifth time winning the contest. His artwork is featured on the 2016-17 Federal Duck Stamp. Robert Hautman placed second with a pair of mallards and James Hautman took third place with a pair of mallards.

You don't need a Federal Duck Stamp as an admission fee to Great Swamp



National Wildlife Refuge. There is no fee here. You can visit as often as you want without charge—freely enjoying the wildlife, landscapes, and habitat—all benefits of the Federal Duck Stamp program. So, even though you don't need a duck stamp to visit and enjoy Great Swamp National Wildlife Refuge—purchase one anyway—to help conserve and protect wetland habitats in the National Wildlife Refuge System for the benefit of wildlife and the enjoyment of visitors—like you.

Don't wait! Stop by the Visitor Center and buy your Federal Duck Stamp today. Make this \$25.00 investment in habitat preservation a part of your annual contribution to conservation.

SPREAD YOUR WINGS FOR CONSERVATION—2016 FALL FESTIVAL THEME

This year marks the centennial of the Convention between the United States and Great Britain (for Canada) for the Protection of Migratory Birds—also called the Migratory Bird Treaty—that was signed on Aug. 16, 1916. This treaty, and the three others that followed, form the cornerstones of efforts to conserve birds that migrate across international borders. Flying long distances involves the crossing of many international borders and entering different political areas each with varying environmental policies and conservation measures. International cooperation is vital in order to truly help a species that spends the summer on one continent and the winter on another.

Great Swamp National Wildlife Refuge was originally established to provide feeding and resting areas for migrating birds. We'll honor these international travelers and this conservation milestone at the annual Great Swamp Fall Festival to be held on Saturday, September 10 from 10:00 am to 3:30 pm at the Helen C. Fenske Visitor Center. Join us for a day-long celebration with guided walks, river seining, target archery, exhibits, crafts and activities for kids, and of course, free hot dogs on the grill. It promises to be a fun filled day celebrating migration and migratory birds.



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
241 Pleasant Plains Road, Basking Ridge, New Jersey 07920

ANNUAL MEMBERSHIP APPLICATION

☐ **EASTERN BLUEBIRD—\$15-\$49**

☐ **PAINTED TURTLE—\$50-\$99**

☐ **RIVER OTTER—\$100-\$249**

☐ **MONARCH BUTTERFLY—\$250-\$499**

☐ **WOOD DUCK—\$500 +**

☐ **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.

Gift Memberships will include a coupon redeemable at the Friends Nature Shop for a free Great Swamp pin or Great Swamp patch.

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



THE SWAMP SCENE JULY 2016

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.