

FRIENDS OF GREAT SWAMP NATIONAL WILDLIFE REFUGE

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Centennial Celebration

RON ORLANDO CREATES CENTENNIAL POSTER DESIGN

Interview with Ron Orlando by Kathy Woodward



Ron Orlando made our Friends group an incredible offer last summer. We had sold his nature paintings and prints in our bookstore and he knew the Board was seeking an idea to highlight the approaching Refuge Centennial.

The Board was delighted when Ron volunteered to paint a representation of Great Swamp NWR and donate the image for use as a Centennial poster. Ron's painting of two fawns looking over a rich landscape captures the essence of Great Swamp.

Why is the Refuge so special to you?

Ron: I've gotten so much from nature and I felt it was time to give something back. I thought I could do that through my art. I contacted several environmental groups, including some in the West, but the connections didn't work. Several years ago, I met Judy Schmidt (Friends vice president and creator of the pottery in our Bookstore) at an art show at Somerset County Environmental Center. She told me about the Friends group. The connection was there from the beginning. I had been spending more time in the Refuge and it felt right that I could work with the Friends, right here, practically in my backyard.

Two fawns are the central figures in your painting. Do they have significance other than their obvious presence in the Refuge?

Ron: Actually, when I first thought about the picture, I envisioned a fox at the edge of the water looking at turtles. So you see, the turtles were always there. But as the idea developed, I decided on fawns. Environmental groups always have education as part of their mission. In addition to the public in general, the emphasis needs to be on children. They are the future. The fawns symbolize children and the hope that they represent.

At our Meet the Artist breakfast in November, you commented that all painting is an illusion. Would you explain that a bit?

Ron: A painting is work on a flat surface, so all the imagery is an illusion. The artist's task is to create a believable illusion so the viewer is invited to enter the piece, to walk around and enter into a real environment. There are many techniques to make that illusion happen, such as putting greater detail and brighter colors in the foreground and using light consistently throughout the painting to create a believable atmosphere. All these things have to come together so the viewers experience participation in the scene.

Continued on page 3

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PRESIDENT'S MESSAGE

From Kathy Woodward

National wildlife refuges across the country will celebrate the Centennial of the Refuge System on March 14, 2003 with parties, pageantry and press events. President Bush and the media have been invited to join in the festivities at Pelican Island NWR, Florida, where President Theodore Roosevelt preserved the first area in 1903. U.S. Fish and Wildlife Service staff and Friends there will mark the occasion with the dedication of a newly completed viewing platform and unique walkway. Each plank leading to the platform is inscribed with the name of one of the 532 refuges placed in chronological order by date established. The path is lined with American flags, donations from other refuges. I'm eager to visit and look for our plank!

At Great Swamp NWR, our Friends group will contribute items for a Centennial time capsule, which will be sealed in March and opened in 100 years! The contents will represent the Refuge and its history. Many people who visit our office and bookstore either want to know the history of the area or are eager to relate their memories about the Swamp. Subtle evidence of what happened on Refuge lands is there if you know where to look. (See "Daffodils" article, Friends Newsletter, Issue 10—October 2002)

On Sunday, March 16, 2003, 11:30-2:30, we are inviting everyone who lived and visited the Swamp before it was designated as part of the Fish and Wildlife system to join us for an after-

noon of reminiscing. We hope to hear more about people, the homesteads, sawmills and farms, collecting arrowheads, sleigh rides, fishing and other events. There will be old photos and memorabilia to share. We also welcome "listeners", who enjoy hearing the stories and learning more about our area. We will provide a light brunch and plenty of chairs. The snow date is March 23.

More information will be sent to you, but in the meantime, save the date. It will be a good way to move into the next hundred years!

THANK YOU TO...

Whether it's a donation of time, money or services – it's our members and partners who allow us to fulfill our mission. Thank you.

- Presbyterian Church of Chatham Township for their donation.
- Paul Ford of New Providence who creates unique wren houses from recycled wooden boxes and has donated them for use in our education programs so the visiting school or youth group can take a bird house back home with them.
- Steve and Linda Byland who have led early morning Sunday walks this fall at the Wildlife Observation Center – cosponsored by New Jersey Audubon Society, Scherman-Hoffman Sanctuaries.
- Painters John Wilmot, Judy Schmidt and Lisa Molinari who painted the replacement window in the Bookstore.
- New Jersey Audubon Society staff and volunteers who co-lead Sunset Walks and the Turkey Walk generously sharing their time and knowledge.
- All of the shutterbugs who entered the 2002 photo contest – and a special thanks to Colonial Camera, New Providence who donated the fabulous enlargements and custom framing for presentation to each of the four winners and a duplicate set to hang in the Friends Bookstore. Stop by and see the winners!
- Refuge staff Tom McFadden and Tony Cullen who quickly responded to our report of a leak in the ceiling which threatened bookstore merchandise – it's fixed!
- Roger Donat for installing new railing at the Friends Bookstore & Gift Shop

About the Friends

ANNUAL MEETING HELD

The annual meeting of the Friends of Great Swamp National Wildlife Refuge was held on October 12, 2002 at the Friends Office, 148 Pleasant Plains Road. The following reports were presented: Financial Report – Laurel Gould, Grants – Lisa Molinari, Membership – Nancy Schenck, Bookstore – Laurel Gould, Education – Judy Schmidt, Volunteers – Marcia Rymer, and Coming Events – Neil Borman. The following Board members were elected to two-year terms by the membership in attendance: Neil Borman, John Wilmot, Marcia Rymer, Louise Jensen. The meeting was followed by a Sunset Walk and a potluck dinner. Thanks to all who attended.

Correction – In the article on Daffodils and Lilacs in the last issue, there was a typographical error – we meant Zander's sawmill on the old Meyersville Road, not Sander. Our apologies to member and good friend Irv Zander who has been supplying us with many historical stories and photos – what a mistake to make!

Centennial Celebration

REFUGE REMINISCENCES TO EXPLORE ROOTS OF THE REFUGE

What better way to celebrate a centennial than to look back and learn about your past? As part of our centennial events in 2003, the Friends will be researching and compiling historical information about the Great Swamp National Wildlife Refuge. The nearly 40 years since the dedication of the Refuge in 1964 provides an opportunity to document the development of the Refuge and to recognize some of the many people who have contributed in different ways over the years. We're also fascinated by the history of the area before it was set aside as a refuge and the lives and times of the people who called the swamp home.

During the year, we'll be hosting a number of Refuge Reminiscences designed to bring people together to discover and record our common history. The first event will be held on March 16 with a sharing of the pre-Refuge days in Great Swamp; future sessions being considered are the fight to save the swamp, establishing and building a national wildlife refuge, and the YCC (Youth Conservation Corps). Watch for more information on these exciting events.

HAPPENINGS ON THE REFUGE

Deer hunt – The Great Swamp National Wildlife Refuge deer hunt took place on December 4 – 7, 2002. The purpose of the hunt is to prevent deer from causing damage to their own habitat, which is the same habitat utilized by many other wildlife species. To reduce the number of fawns that are born each year, hunters are required to check in an adult doe before they are issued a buck tag. This results in the harvest of three does to every buck. This year, 271 deer were taken. Reported by Craig Bitler, GSNWR Biologist.

Christmas Bird Count – On December 14, the Friends of Great Swamp and students from Assumption School, Morristown, participated in the Christmas Bird Count by doing a "feeder watch". The team spent the day identifying species seen at the Bookstore bird feeder and counting the maximum number of individuals of that species seen at any one time. The group identified a total of 17 species including a hairy woodpecker, tree sparrows, and turkey vultures which were officially reported in the Great Swamp area count. We'd like to thank Junior Birders Veronica Koons, Emily Meusel, Fernando Limbo, Raymond Limbo.

New water-control structures – Ducks Unlimited recently completed the engineering and delivery of two projects at the Refuge to allow for increased water-management capabilities for waterfowl management. You might have noticed work-in-progress on the Auto Tour Route near Refuge headquarters last year.

Interview with Ron Orlando—continued from page 1

The Board of Directors, after hearing you describe your intentions in painting the picture, chose "Celebrating a Century of Discovery" as the inscription for the poster. I hope you approve.

Ron: I do. That was my intention from the beginning. I wanted to capture the sense of nature and the discovery that is always there. We are fortunate to have that opportunity through the Refuge and I'm happy to give back in this way.

In your years as an artist, have you always enjoyed painting nature?

Ron: Yes. From an early age, I enjoyed exploring the woods, turning over stones, looking for salamanders and such. I liked to draw but I was dissatisfied with my first painting – so much so that my parents decided that they better get me some lessons. At 8 years old, I began taking painting lessons with the lady down the street so I could learn to paint what I saw. I went on to study art and teaching as a profession and have been teaching painting and drawing for the last 33 years. Within the last 13 or 14 years, I've been focusing my own work on painting wildlife.

Centennial posters are on sale for \$12.00 at the Friends Bookstore & Gift Shop. We carry Ron's limited edition prints, framed and unframed, as well.

MYSTERY PHOTO

In the late 1970s, a federal program, the Young Adult Conservation Corps (YACC), provided young people, ages 16 to 23, with conservation-related employment and education opportunities. This photo was taken at Great Swamp NWR where the YACC program was active for a few years. Do you know any of these young people? Do you have any information or experience with the YACC program? Write, e-mail, or give us a call and let us know!



*What Friends Do***FRIENDS HOST FALL EVENTS – FUN FOR ALL**

Fall is a busy time at the Great Swamp National Wildlife Refuge. It's peak migrating season for ducks and other birds – which of course brings out the visitors as well. The Friends hosted Sunset Walks every night during National Wildlife Refuge Week, October 12 – 19. It is always a treat to watch hundreds of ducks descend on the marsh at dusk – and there are other special treats as well.

This year, there were sightings of screech and great horned owls and an uncommon migrant, a vesper sparrow, sat conspicuously on the fence in the Friends parking lot in perfect view of a group gathering for the Sunset Walk. We especially want to thank our friends at New Jersey Audubon Society who helped lead the walks every night providing a wealth of nature commentary along the way.



October 19th was our semi-annual Homestead Cleanup with 14 volunteers participating. Each homestead cleanup is different, for a variety of reasons, and this one was no exception. After a dry summer we had one of the first good rains just before the cleanup and it was wet in the swamp. Craig Bitler had several stretches of fencing to be removed. This was hard work as shrubs and vines had overgrown the fencing and tree roots had trapped the bottom wires – so the wire had to be cut, pulled out of the ground or detangled from the shrubs and then dragged away. We also tackled several smaller sites where the usual glass bottles, metal and other household debris were cleared out along with a bathtub that president Kathy Woodward tried on for size. It started to rain just as we called it quits – we regrouped at the Bookstore for lunch and good conversation. Watch for details on our spring homestead cleanup. It's a chance to get a good aerobic workout, help restore the refuge, and enjoy the camaraderie of good friends.



The 3rd Annual Turkey Walk, held on November 30, lived up to tradition – no turkeys were spotted. But 59 visitors enjoyed a wonderful late fall walk into the management area, normally closed to the public. Black ducks, mallards, and wood ducks were flushed from the swamp, a mute swan was spotted, a kestrel ate lunch in full view of the group, bluebirds, winter songbirds, and herons were also seen. A special highlight was a flying squirrel who plastered himself to the side of a tree, trying to be invisible, while the entire group got a close-up view through the scope – and then watched as he “flew” to a lower branch and scooted out of sight. Hot chocolate and home baked goodies were a welcome finale to a wonderful fall walk in a special place.

*What Friends Do***2002 PHOTO CONTEST WINNERS ANNOUNCED**

Winners of the 2002 Photo Contest were announced at the Turkey Walk on November 30 and presented with a custom-framed enlargement of their winning photo, compliments of Colonial Camera, Berkeley Heights. For a close-up look at the winning photos and the stunning custom framing which enhances each photograph, visit the Friends Bookstore & Gift Shop where they will be displayed during 2003. Winners were selected for Best Wildlife Photo, Best Landscape Photo, and Friends Choice; this year, for the first time, we also had a category for junior photographers (16 and under).

The Wildlife category was won by Karen Borman of Basking Ridge, with a close-up photo of an American bittern. Of her photograph, Karen noted, "it was an unusual bird, a treat to see, fishing so close to the boardwalk."

John Gregor of Basking Ridge was the winner of the Landscape category. You may remember John's winning photo of the two majestic white oaks from last year. This year, John's landscape photo captures early morning mist rising from the brook at the Pleasant Plains Road bridge.

The Friends Choice was awarded to New Providence resident Sandra Pruzansky. Her close-up photo of a hummingbird moth on thistle was taken on a Fall Festival walk. Sandra shared her story of the photo entry that almost didn't happen... "It was the day of the photo contest deadline, and while I was completing the application form, I wrote my name on the back of the photos I was submitting. I then discovered that by laying the photos on top of each other, the ink had rubbed off and smudged the print - ugh! So I rushed to the local CVS to see if they could reprint it. The sign on the one-hour photo drop was ominous. 'Even if you have a photo of a Sasquatch, we can't develop your film today.' Desperate, I figured it was worth a try! I explained my dilemma to the young women inside - turns out she's a fan of the Great Swamp and had just visited the day before. She reprinted the photo - twice - because there were some spots on the first reprint. Yeah! for the Great Swamp."

Our first winner of the new Junior Photographer category was Blake Maloof, age 15, with a winning photo of the American bittern who hung out at the Wildlife Observation Center for several weeks last summer. Blake lay on his stomach on the boardwalk for half-an-hour, determined to snap the bittern in the act of spearing a fish. And he did!

Special Thanks to Bill Judge and Stefanie Guidetti of Colonial Camera, New Providence for their continued generous support in providing enlargements and custom-framing for our winners and for the Friends Office & Bookstore.



Landscape Winner — John Gregor



Friends Choice Winner — Sandra Pruzansky

The 4th Annual Photo Contest has begun! Watch for more details in upcoming issues of the newsletter. There have been some fabulous snowfalls this year - and winter landscapes provide some great opportunities.

So... Where is your camera?

Learning About Swamp Life

AMPHIBIAN CALL-COUNT SURVEY

By Judy Schmidt

Every spring, Refuge staff and volunteers conduct an amphibian call-count survey as a means of detecting population change and changes in geographic distributions of amphibians on the Great Swamp National Wildlife Refuge.

The survey begins one half hour after sunset. There are 20 sample stations that are visited by a volunteer for 5 minutes. At each station the weather is recorded, as it has a direct effect on amphibian call activity.

- Wind – calling activity is reduced by dry air or strong winds since these dry out amphibian's skin thereby causing frogs to stay under water.
- Temperature – an air temperature of at least 46 degrees is needed to elicit calling activity. Late season frogs (bullfrogs) need 70 degrees.
- Precipitation – nights that are damp, foggy or have light rain falling are ideal.

The Wisconsin Index Value system of calling amphibians is used to categorize the intensity of the calling activity. Index values: 0 (zero) – no amphibians are calling; 1 – individuals can be counted; 2 – calls of individuals can be distinguished but there is some overlapping of calls; 3 – full chorus, calls are constant, continuous and overlapping.

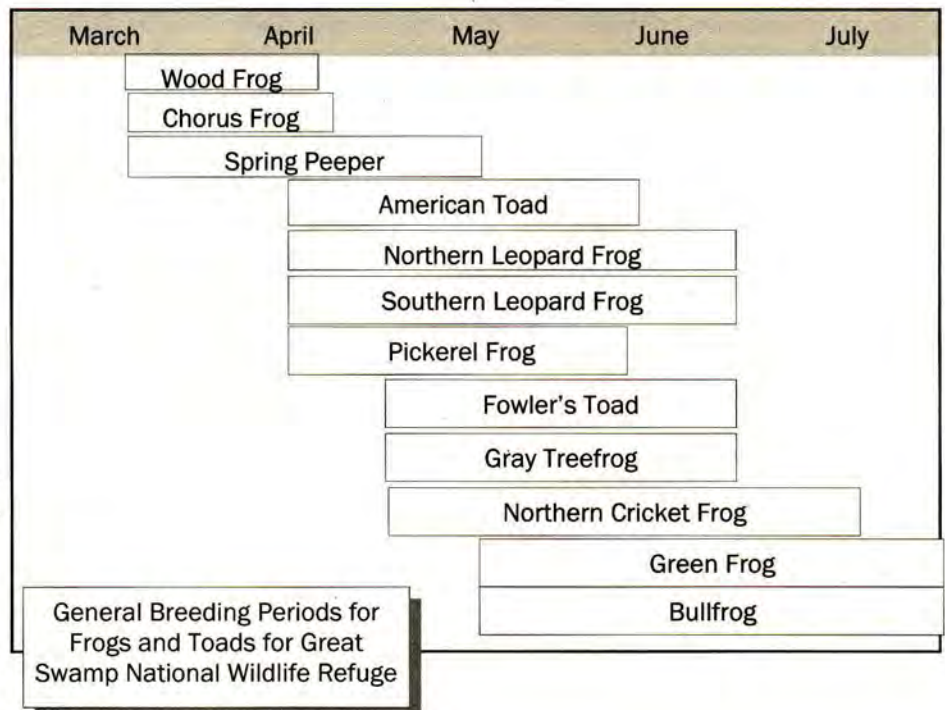
The following species are monitored by listening to their calls:

- American toad – long, drawn-out, high-pitched, musical trill.
- Fowler's toad – high pitched nasal, non-musical trill.
- Gray treefrog – musical, slow bird-like trill.
- Spring peeper – short, loud, high-pitched peep.
- New Jersey chorus frog – short trill-like cr-r-eee resembling a thumb drawn along the teeth of a comb.
- Upland chorus frog – similar to New Jersey chorus frog, but faster.
- Cricket frog – fast, repeated clicking, like two pebbles being struck together, increasing in speed and then decreasing.
- Wood frog – short subtle chuckle, like ducks quacking in the distance.
- Northern leopard frog – short, rattling "snore" followed by guttural chuckling, resembling wet hands rubbing a balloon.
- Pickerel frog – low-pitched, drawn-out "snore", increasing in loudness over a couple of seconds.
- Green frog – throaty "gunk" or "boink" like the pluck of a loose banjo string.
- Bullfrog – deep bass, two syllable "rr-uum" or "jug-o-rum".

The survey starts in March and ends in June to cover the breeding periods for our frogs and toads. If you want to hear this chorus of frogs, most can be heard at the Wildlife Observation Center. If you are interested in learning the various calls, visit our Friends Bookstore & Gift Shop and pick up a New Jersey Frog Call CD and a descriptive booklet, so you can get more out of your swamp visits.

The farmers in the area say "Spring isn't really here until the spring peepers are iced in three times."

So be ready for the chorus when the peepers and wood frogs start calling in March – one of the earliest signs of spring.



Learning About Swamp Life

A WALK IN THE WILDERNESS

By Laurel Gould

I took a walk in the wilderness today. No – I wasn't in Montana, or Arizona, or Alaska. I was in the Great Swamp National Wildlife Refuge – right here in New Jersey, the most densely populated state in the country.

Back in 1964, President Lyndon Johnson signed into law the Wilderness Act that established a National Wilderness System – a system to set aside and protect designated federal lands from any form of human development in order to provide a wilderness experience for present and future generations. Wilderness was defined as “an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain.”

In 1968, under the provisions of the Wilderness Act, Congress designated the Great Swamp National Wildlife Refuge Wilderness Area, comprising more than 3,500 acres – nearly half of the total refuge. This area became part of the National Wilderness System and was the first national wildlife refuge to receive wilderness designation (the first wilderness areas were huge tracts of

land in national forests of the west).

During the Congressional hearings on the Great Swamp Wilderness Area, there was considerable debate about whether this area of the Refuge had all the characteristics of wilderness as defined by the Wilderness Act itself. Was it too small an area to qualify? Was it wild enough? Could it be maintained as wilderness in the midst of urban development? The grassroots support that organized to defeat the Port Authority jetport a few years earlier rallied for another tough battle. The questions posed were ultimately satisfied by the agreement of Passaic (now Long Hill) Township and Harding Township to close an existing road to make one larger wilderness area and to remove buildings and other structures. Today that road is the Orange Trail, a footpath through the wilderness where you can walk in virtual solitude and peaceful seclusion.

*“Wilderness...
where man himself
is a visitor
who does
not remain.”*

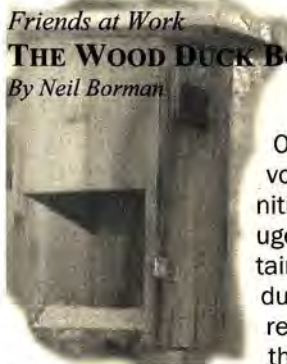
The most popular visitor areas at Great Swamp, including the boardwalks, the wildlife observation blinds, and the heron rookery overlook on the auto tour route, are all located in the part of the Refuge known as the Wildlife Management Area. This area is actively managed by the Refuge staff to provide habitat for various kinds of wildlife and migratory birds. By contrast, the Great Swamp's wilderness area comprises the eastern half of the Refuge and provides some eight miles of marked trails with designated parking areas for access. In accordance with the stipulations of the Wilderness Act, these are primitive foot trails that may be wet to impassible at times; no motorized or mechanized transportation is allowed.

But if you are looking for a quiet walk and a chance to experience solitude in a wilderness setting, take advantage of “the other half” of the Great Swamp National Wildlife Refuge.

Friends at Work

THE WOOD DUCK BOX – DO WOOD DUCKS USE THEM?

By Neil Borman



One of the annual volunteer opportunities at the Refuge involves maintaining the wood duck boxes. In a recent issue of the Friends news-

letter, Judy Schmidt wrote about cleaning the wood duck boxes and what we see inside during our early spring-cleaning. Not only do we clean the boxes, noting any that need remodeling or rebuilding, we also collect survey data for the Refuge staff.

During January and February of 2002, we checked 301 sites with a total of 302 possible wood duck boxes (one site has two boxes back to back). At nine sites, boxes were either damaged or missing.

Of the remaining 293 boxes, 120 (41%) were used for by wood ducks for nesting. To determine the number of eggs laid, we count the total number of eggs (whole or with membrane attached) and the number of separated membranes – a total of 1,137 eggs were laid. Then to determine the number of wood ducks hatched, we count the number of membranes separated from the egg shell (the white potato chips found in the nest) which totaled 529 (47%) hatched. These findings are about the same as those of the past several years.

Each year we find a couple of “dump boxes”. Wood ducks generally lay 8-15 eggs. When we find a box with a large number of eggs, for example 34 eggs, it is labeled a dump box. Why the large number of eggs? Two reasons are pro-

posed. One reason is that the female does not feel she has the strength to hatch a clutch of eggs so she deposits her eggs in another duck's nest so that some of her offspring may survive. Another reason is that she may not want to raise a clutch.

Does this account for all the wood duck nests in the Great Swamp? No. The natural nesting site for the wood duck is a tree hollow. The number of natural nest sites is on the increase. During the past 100 years, trees have grown up over the farmlands that now make up the refuge. As these trees are reaching the end of their life span, new hollows develop becoming natural nest sites for wood ducks and other species of birds and animals.

CONTROLLING INVASIVE PLANTS

First of a two part series...

By Leo Hollein

The Great Swamp National Wildlife Refuge (GSNWR) is under attack by a number of non-native invasive plant species. Not all non-native species become invasive. Over one-third of the total plant species in New Jersey are estimated to be imported plants. Most non-native species increase plant diversity and pose no threat of becoming invasive. On the other hand some native species can become invasive. Cattails and phragmites, both native species, can become invasive in wetlands disturbed by human activity. Both whitetail deer and Canada geese are examples of native animals that have become invasive due to habitat changes. The GSNWR has control programs in place for both. To date there are no plans to control invasive non-native hominoids beyond limiting their access to the management area of the refuge.

An invasive plant species out-competes other vegetation and reduces the variety of plants. A greater variety of plants will support a more diverse and vibrant wildlife population. The GSNWR uses both biological and chemical weapons to control invasive plant species and promote plant life diversity. Removing invasive species by digging or pulling is not practical due to the size of the GSNWR (about 7,500 acres). Biological control is preferred but is not always available for a particular plant species. While less desirable, chemical control can be effective. Herbicide used in the Great Swamp is biodegradable. Care is taken to only spray the invasive species. The plants that are currently being controlled at the Great Swamp in order of importance are purple loosestrife, Japanese barberry, Japanese knotweed and Japanese stilt grass.

Purple Loosestrife

Figure 1 shows a purple loosestrife (*Lythrum salicaria*) plant in full bloom. Purple loosestrife is a perennial of Eurasian origin that became abundant in the Eastern U.S. in the early 1800's. It eventually spread throughout North America in its preferred habitats. It is still sold in nurseries in New Jersey as an ornamental plant because of its attractive purple flowers that bloom from July through September. It has been called "the beautiful killer." Beekeepers employ purple loosestrife because it is an excellent source of nectar. Purple loosestrife has been used as an herbal remedy to clean wounds, to combat diarrhea and as eyewash.

Purple loosestrife presents a control challenge. It is hardy, tolerates a range of moisture and nutritional regimes, and is virtually free of native insect pests. It does require a habitat that is wet or moist for at least part of the year. Purple loosestrife spreads primarily through seed dispersal by water and secondarily by animals. It can also spread through roots once it becomes established. It thrives in the shallow water areas of the Great Swamp and covers over 90 acres in the management area.

Initial efforts to control purple loosestrife by chemical spraying were ineffectual as the plant re-established itself quickly. Fortunately biological approaches have been more successful. An extensive United States Department of Agriculture (USDA) effort (ten years and 1 million dollars) was successful in finding potential biological control agents in Europe, testing their effectiveness and confirming that importing these pests to the U.S. would not cause other environmental problems. Leaf-eating beetles that only feed on purple loosestrife were approved for importation. These beetles have been introduced into the Great Swamp and have already consumed over 50 acres of purple loosestrife. Once established the beetles are self sustaining. They produce offspring once or twice per year. The beetles live about one year and over winter in the ground. The beetles gradually eat their way through the purple loosestrife infestation. Eventually, equilibrium should exist between the beetle and purple loosestrife populations eliminating the need for further intervention.

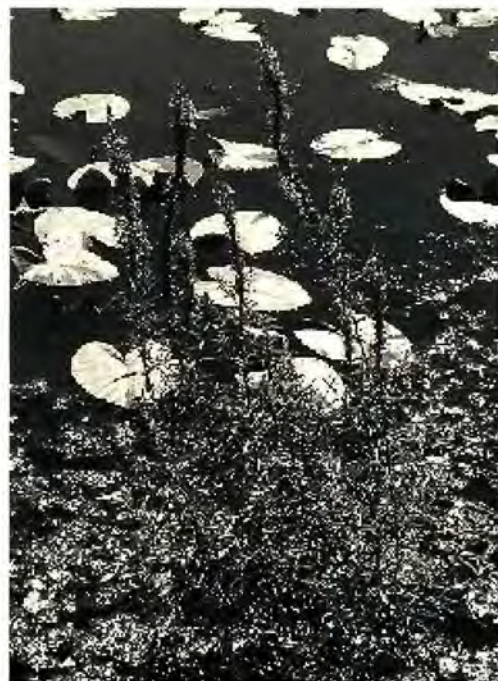


Figure 1

Japanese Barberry

Japanese barberry (*Berberis thunbergii*) is shown in Figure 2. It was introduced into the United States as an ornamental planting in the 1870's. It is a compact, thorny shrub with small oval leaves and can grow up to six feet tall. It is commonly used as a hedge or barrier planting. The Japanese barberry has bright red, oblong fruit that matures in late summer. These berries are eaten by birds such as robins and mockingbirds that subsequently disperse the seed. Japanese barberry can spread via their root system. If a barberry branch touches the ground, it will readily root. Ground nesting birds such as towhees, veeries and ovenbirds frequently nest in dense Barberry patches. Like most plants with a Japanese prefix, barberry can survive in deep shade although it does better in partial sunlight. Japanese barberry is a slow grower and can be out-competed by grasses in full sun.



Figure 2

Japanese barberry can become invasive in low to partial sunlit areas because it prefers this habitat and whitetail deer will not feed on it. Where whitetail deer are plentiful, as in the Great Swamp, they eat other shade tolerant plants thereby allowing the Japanese barberry to thrive with little competition. A suburbanite, frustrated by losing shrubs to deer browsing, can gain some relief by planting Japanese barberry that is sold in nurseries.



A number of areas in the GSNWR are overgrown with Japanese barberry. It is not practical to remove them by hand digging. There are no known ways to control Japanese barberry with biological agents. Herbicides are, however, very effective in controlling barberry. Figure 3 illustrates a Barberry patch one year after spraying.

GSNWR staff and volunteers wearing long sleeve shirts, masks and rubber gloves spray barberry using backpacks in the late summer and early autumn when leaves are fully developed but before fall color changes occur. Spraying is carried out on warm, sunny days after the dew has burned off. Spraying is not done when there is a threat of rain that could wash herbicide from the bushes. To date control efforts have been restricted to the management area of the Great Swamp. However, it is planned to begin spraying large patches of barberry in the wilderness area in 2003.

An organic phosphate herbicide called glyphosate (product name RODEO for aquatic applications or ROUNDUP for strictly terrestrial applications) is mixed with a surfactant (fatty acids) and water to make the spray solution. The surfactant aids by dissolving the outer leaf tissues and enhancing herbicide absorption. The glyphosate is absorbed through the leaves and moves rapidly through the barberry to the roots. It disrupts the plants biochemical pathways and prevents the plant from producing essential amino acids, thereby, causing the plant to die in several weeks. Glyphosate is a non-selective herbicide and will attack any plant that it touches. Care is taken to spray only Japanese barberry bushes.

Figure 3

Glyphosate is biodegradable and has a low toxicity for birds and mammals; however, it should not be consumed orally. The EPA has established a maximum contaminant level (MCL) of 0.7 ppm (parts per million) for glyphosate in drinking water. Glyphosate is strongly adsorbed by soil and has little potential for being leached into ground water. When released into surface water, it tends to adhere to sediments.

Watch for Part 2 on the Japanese knotweed and the Japanese stilt grass in the next newsletter.

CALENDAR OF EVENTS

Sunday, March 2, 8:00 to 10:00 am

Birding and Natural History Walks at Great Swamp National Wildlife Refuge. Walk with Neil Collins and other New Jersey Audubon Society (NJAS) naturalists to look for birds, plants, and other wildlife. Cosponsored by NJAS and the Friends of Great Swamp. Meet at the Wildlife Observation Center (the blinds) on New Vernon / Long Hill Road.

Sunday, March 16, 8:00 to 10:00 am

Birding and Natural History Walks at Great Swamp National Wildlife Refuge. See details for March 2.

Sunday, March 16, 11:30 am to 2:30 pm

Great Swamp History – Join us for an afternoon of reminiscing about life in and around the Great Swamp before it became a national wildlife refuge. Bring your stories, artifacts, photos, and clippings to share – or just sit and listen as former residents share their memories with us. A light brunch will be provided. Friends Office and Bookstore, 148 Pleasant Plains Road. Snow date, Sunday, March 23.

Saturday, March 29, 3:00 to 4:00 pm

Do the Swamp Thing – Reptiles and Amphibians of the Great Swamp – One of four slide-lecture programs on the flora and fauna of the Great Swamp. Cosponsored by NJAS, Somerset County Environmental Education Center, The Great Swamp Watershed Association, Friends of Great Swamp, and the Morris County Park Commission. To be held at the Somerset County Environmental Education Center.

Saturday, April 5, 8:30 am to Noon

Annual Refuge Roadside Clean-Up – Help spruce up for Spring – we'll walk the roads of the Refuge and pick up litter and debris. Wear gloves and boots. Meet at Refuge Headquarters on Pleasant Plains Road.

Sunday, April 6, 8:00 to 10:00 am

Birding and Natural History Walks at Great Swamp National Wildlife Refuge. See details for March 2.

Saturday, April 19, 8:00 am to Noon

Spring Homestead Cleanup – Join us as we work in areas of the Refuge which are normally closed to the public, cleaning up old homestead sites, pulling fence, or removing man-made debris – help return the Refuge to wildlife. Wear gloves and boots. Meet at the "Cement Factory" on White Bridge Road.

Friday, April 25, 6:00 pm to dusk

Great Swamp Heron Rookery – The great blue herons will be nesting at the rookery – come and see why they call it "great"! Cosponsored by NJAS and Friends of Great Swamp. Meet at the Friends Office and Bookstore on Pleasant Plains Road; we'll car pool to the rookery.

Saturday, April 26, 3:00 to 4:00 pm

Do the Swamp Thing – Birds of the Great Swamp – the second of four slide-lecture programs will cover birds of the Great Swamp. Cosponsored by NJAS, Somerset County Environmental Center, Great Swamp Watershed Association, Friends of GSNWR, Morris County Park Commission. At Somerset County Environmental Education Center.

Saturday, May 3, 10:00 am to 1:00 pm

Annual Fishing Derby, Southard Park, Basking Ridge.

Sunday, May 4, 8:00 to 10:00 am

Birding and Natural History Walks at Great Swamp National Wildlife Refuge. See details under March 2.

Friday, May 9, 6:00 pm to dusk

Great Swamp Heron Rookery – The great blue herons will be nesting at the rookery – come and see why they call it "great"! Cosponsored by NJAS and Friends of Great Swamp. Meet at the Friends Office and Bookstore on Pleasant Plains Road; we'll car pool to the rookery.

Friday, March 14, 2003

Centennial Anniversary—1903—2003. Pelican Island Florida was established as the first National Wildlife Refuge 100 years ago.

Saturday, May 10

World Series of Birding—Great Swamp Refuge Rovers will try to beat their 2002 record! Watch for more details.

Sunday, May 18, 8:00 to 10:00 am

Birding and Natural History Walks at Great Swamp National Wildlife Refuge. See details under March 2.

Saturday, May 24, 3:00 to 4:00 pm

Do the Swamp Thing – Flora of the Great Swamp – the third of four slide-lecture programs covers flora and fauna of the Great Swamp. Cosponsored by NJAS, Somerset County Environmental Center, Great Swamp Watershed Association, Friends of GSNWR, and Morris County Park Commission. At Somerset County Environmental Education Center.

Saturday, June 14, 3:00 to 4:00 pm

Do the Swamp Thing – Butterflies of the Great Swamp – the last slide-lecture programs; butterflies of the Great Swamp. Cosponsored by NJAS, Somerset County Environmental Education Center, Great Swamp Watershed Association, Friends of GSNWR, and Morris County Park Commission. At Somerset County Environmental Education Center.

Saturday, September 6, All day

4th Annual Fall Festival & Centennial Bash! Save the date! We'll be celebrating the Refuge System Centennial with extra special Fall Festival activities for all.

FRIENDS OF GREAT SWAMP NATIONAL WILDLIFE REFUGE

MEMBERSHIP APPLICATION

NEW MEMBER BENEFITS

Bill Judge owner of Colonial Camera Shop, Village Shopping Center, New Providence is offering discounts to members of the Friends of Great Swamp. Upon presentation of your membership card, you will receive:

- 10% discount on film and film processing
- 15 % discount on custom framing.

Thank you Colonial Camera.

Also—members receive a 10% discount on all purchases at the Friends of Great Swamp Bookstore and Gift Shop. Discounts also valid at participating refuges. Check our web site for details.

Membership offers ways to get involved at many different levels. Members...

- receive special discounts at our Bookstore and Gift Shop and local merchants
- receive a quarterly newsletter
- have opportunities to participate in special events
- contribute to the improvement of the refuge for all visitors.

If you would like to become a member of the Friends of Great Swamp National Wildlife Refuge, please fill out the information on this form, and mail with your check to

Friends of Great Swamp National Wildlife Refuge

152 Pleasant Plains Road, Basking Ridge, New Jersey 07920

Yearly Membership

Membership Type ☐ Family - \$25 ☐ Individual—\$15

Renewal? ☐ Yes ☐ No

Membership is tax deductible!

Name _____

Address _____

City _____

State, Zip Code _____

Phone Number _____

E-Mail Address _____

Occupation (Optional) _____

I would be interested in volunteering (check one or more)

- | | |
|--|---|
| <input type="checkbox"/> Buildings & Grounds | <input type="checkbox"/> Membership |
| <input type="checkbox"/> Communications | <input type="checkbox"/> Education & Outreach |
| <input type="checkbox"/> Sales/Bookstore | <input type="checkbox"/> Programs & Events |

The Friends is a non-profit, tax-exempt corporation as defined under the laws of the state of New Jersey and the U.S. Internal Revenue Service under section 501-(c)-(3).

NATIONAL WILDLIFE REFUGE SYSTEM CENTENNIAL—1903—2003

Contribute to the History of Great Swamp National Wildlife Refuge

Sunday, March 16, 2003 — 11:30 – 2:30

Friends of Great Swamp Office and Bookstore
148 Pleasant Plains Road, Basking Ridge, NJ
973-425-9510

An afternoon of reminiscing about Great Swamp before it became part
of the National Wildlife Refuge System.

In a relaxed, informal atmosphere, you are invited to share
memories and artifacts about the area—or just come and listen to the stories!

Friends of **Great Swamp** **National Wildlife Refuge**

JANUARY 2003





Searching for the Perfect Gift?
Shop at the Friends of Great Swamp Bookstore & Gift Shop
Where Your Purchases Go Twice As Far

Selected Items	Size	Color	Quantity	Price	Total
Sweatshirt – Hooded Merganser (Adult sizes Small to XXL) Color – specify Birch, Periblu, Jade, Granite				\$19.95	
Sweatshirt – American Kestrel (Adult sizes Small to XXL) Color – specify Birch or Natural				\$19.95	
Mouse Pad – 2001 Photo contest winners – White Oaks in Autumn	xx	xx			
Mouse Pad – 2001 Photo contest winner – Green Heron with Fish	xx	xx			
Mouse Pad – 2001 Photo contest winner – Lily Pads	xx	xx			
GSNWR Blue Goose Pin (oval)	xx	xx		\$2.95	
GSNWR Blue Goose Patch (oval)	xx	xx		\$2.95	
Great Swamp National Wildlife Refuge Centennial Poster (18" x 24") By Friends artist Ron Orlando For full color picture, visit our web site	xx	xx		\$12.00	
Shipping and Handling					
... up to \$15.00			\$4.00		
\$15.01 - \$35.00			\$5.00		
\$35.01 - \$60.00			\$6.00		
\$60.01 to \$100			\$7.00		
Over \$100			\$8.00		
Memberships – Give a gift membership in the Friends of Great Swamp – we will send a special gift certificate in your name – recipients will receive a 10% discount in the Bookstore & Gift Shop, a quarterly newsletter, and invitation to special events.					
... Individual Membership				\$15.00	
... Family Membership				\$25.00	
Gift Certificate – Can't decide what to give? How about a gift certificate? We'll send a personalized gift certificate in the amount you specify. May be redeemed at any time in the Friends Bookstore & Gift Shop.				Specify amount _____	
				Total amount enclosed	

Method of Payment – Checks or money orders made payable to Friends of Great Swamp
Mail order and payment to: Friends of Great Swamp, 152 Pleasant Plains Road, Basking Ridge, NJ 07920

Please print clearly
 Name _____

Address _____

City _____ State _____ Zip _____

Daytime phone _____ Member? Yes _____ No _____

Thank you for your order – all proceeds benefit Refuge projects