

BioBlitz 2009

Still Seeking to Uncover All Creatures Great & Small

by Hazel England, GSWA Director of Education and Outreach

In 2007, Great Swamp Watershed Association, collaborating with Morris County Park Commission, hosted its first ever BioBlitz. A seemingly crazy idea, a BioBlitz looks within a 24-hour period to count all living things that fly, crawl, walk, slither or grow in a particular area. Part contest, part scientific endeavor, but wholly fun! Held at Loantaka Brook Reservation, state and local scientists and volunteers combed the area for all its living inhabitants. Despite cold temperatures and small numbers of researchers for the huge area to be surveyed, over 400 species were tallied in the BioBlitz 2007 count. Bob Papson, the fisheries biologist who electro-shocked fish in Kitchell Pond, found some invasive fish species, and some indicative of the poorer oxygenation common in nutrient rich streams. His recommendations, based on his findings, were forwarded to Morris County for inclusion in future management decisions.

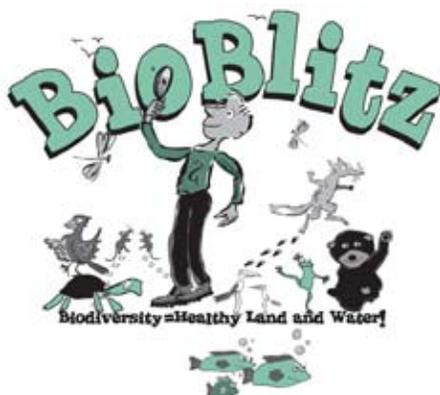
The first BioBlitz focused attention on biodiversity found in a well-known, heavily-used County Park within the Great Swamp. Now, BioBlitz 2009 will focus that lens of discovery elsewhere within the watershed, as we head out to the nearly 8,000 acre Great Swamp National Wildlife Refuge itself! Twenty-four hour surveys done only once every few years can only provide a snapshot of biota or life contained in an area, but the presence or absence of certain species can say a lot about the health and functionality of the land.



chance to study an ecosystem that, due to a long-term effective hunting program within the refuge, has a manageable deer population. BioBlitz botanists, therefore, would expect to find plants absent in other more heavily browsed areas of the New York Metro area. Other scientists will hail from state, local, academic and non-profit organizations, and include interested amateurs too!

Education will again be at the heart of the BioBlitz, and an array of public programs at the site will highlight not only

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Great Swamp Watershed Association will be working jointly with the staff of the GSNWR and the Friends of Great Swamp to host this year's BioBlitz in the heart of the refuge. While species lists for GSNWR already exist, one of the main highlights of a BioBlitz is the excitement it generates in scientists, who just never know what they will find. Botanists from Brooklyn Botanic Garden and New York Botanic Garden will seek out all the plants lurking within the BioBlitz area. They are eager to have the

When:

Friday, May 15, 5 – 9:30 p.m.

Saturday, May 16, 7 a.m. – 5 p.m.

Where:

BioBlitz Hub at Friends of Great Swamp Bookstore & Gift Shop, 197 Pleasant Plains Rd., Basking Ridge, NJ 07920, in the Great Swamp National Wildlife Refuge (see map on page 14).

BioBlitz 2009 Schedule of Public Programs

Join us on BioBlitz weekend to participate in these great activities at the BioBlitz Hub, located at the Friends of Great Swamp Bookstore & Gift Shop on Pleasant Plains Road, Great Swamp National Wildlife Refuge (GSNWR), site of our twenty four-hour BioBlitz. These programs are offered first come first served on the day of the event, and sign up will take place at the hub until the maximum number for each program has been reached.

There is no charge for these programs but we ask that you consider a donation. Please note that some programs are particularly appropriate for a particular age group. This schedule may be subject to change. Check at the registration table as you enter the BioBlitz hub for meeting point.

Friday May 15th

6:00 p.m. Frog Call Survey

Join GSNWR staff member Tony Collins to learn who made that call, and which frogs and toads are calling around the ponds of the Refuge. A short presentation may begin the walk.

7:00 p.m. Bats of the Refuge

Learn more about the denizens of the night, as refuge biologists present an informative program about the bats of Great Swamp. As part of the BioBlitz, mist nets will be set up temporarily to catch bats to identify and tally.

8:30 p.m. Owl Prowl

Join ace owl caller Emile DeVito on a short hike to call out screech, barred or other owls present on the refuge after dark. No flashlight required!

Win a Mountain Bike!



See back cover for details.

Saturday May 16th

7:00 a.m. Early Morning Bird Hike

Ornithologists on the BioBlitz team may well see or hear over 70 species of birds as they scour the refuge for wandering warblers, secretive songbirds, resident robins and more. Learn just HOW they figure out which bird is which. We will concentrate on how to identify the birds of the area by sight or sound. Bring field guide and binoculars if you have them. Listen for migrant warblers just arrived, or other resident birds you may know by sight but not sound!

9:30 a.m. Search for Stream Critters

Get down and dirty in the stream to see up close and personal the creatures that call it home! Learn how these macro invertebrates can help scientists determine how clean the water is. Wear rubber boots and prepare to get a little wet! Best suited for ages 8 & up.

10:00 a.m. Wildflower Walk

Who could resist the chance to learn more about what's growing at Great Swamp National Wildlife Refuge? Plants can't run away and so lend themselves to identification. We will concentrate on learning how to identify what we encounter using field guides, magnifying lenses and more. Best for ages 5 and up.

11:00 a.m. Radio Telemetry Tracking Demonstration

Join refuge biologist Mike Horne to learn how some of the rare species are tracked as they go about their daily lives. Using radio telemetry equipment, Mike will demonstrate the tracking process... with the aid of a few helpful turtles!

12:00 noon Fungal Foray

Join Dorothy Smullen, expert educator and mycologist, for a talk and walk to learn more about mushrooms, toadstools, and the many other fungal friends living on the refuge.

1:00 p.m. Insect Identification

More than any other group of animals, insects will make up the bulk of our fauna count. See how insect observation and identification is conducted and learn

what different combinations you can turn six legs, three body parts and no backbone into!

1:30 p.m. Raptor Trust Presentation

Learn about New Jersey's magnificent birds of prey as The Raptor Trust leads a presentation of just what makes a raptor a raptor! Learn about the rehabilitation of injured birds carried out by the Trust. There will be live raptors to learn from too. Suitable for all ages.

2:00 p.m. Vernal Pool Survey

Colin Osborn, vernal pool specialist at the refuge, will lead a tour of the vernal pools of the GSNWR, vital habitat for many reptiles, amphibians, and a host of other wetland species.

2:00 p.m. BioBlitz Speaker Presentation

Join us as we celebrate the day's successes, share exciting and unusual finds, tally our total and draw our mountain bike, binocular, and MP3 raffle.

Conduct Your Own Mini BioBlitz Ongoing all BioBlitz long!

Pick up our BioBlitz brochure and conduct your family's own BioBlitz on the trails of the Great Swamp National Wildlife Refuge. You will use your observation skills to spot different kinds of plants and animals, and learn more about the physical parameters of the site. For every completed BioBlitz "survey," you will receive a prize. Stop by the registration table to pick up a brochure and learn the rules of scientific discovery! For all ages.

GSWA and The BioBlitz Committee gratefully acknowledge **RXR Realty** for their platinum level sponsorship of BioBlitz 2009. We also wish to thank **Jaeger Lumber** for their generous donation.

Thanks, too, to **High Gear Cyclery** and the **New Jersey Audubon Society** for their donations to our BioBlitz 2009 raffle.

Great Swamp Watershed Association

GSWA is a membership-supported non-profit organization that protects the water you drink and the places you love. We preserve the natural beauty and promote the health of the local environment now and for the future.

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ACROSS THE WATERSHED

is a publication of the Great Swamp Watershed Association.

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From the Desk of the Executive Director

by Sally Rubin



I really love my job. If you've never been lucky enough to have a job that really makes you feel good, I encourage you to find one. Perhaps a small benefit of the economic downturn is that people will evaluate what they do and why. If you can't change careers, maybe you can find an avocation that gives you personal satisfaction. Of course, I would love to see more people involved with Great Swamp Watershed Association, but that's not the main point. Find something that makes you feel good and spend some time doing it.

I wouldn't be doing my job – the the one I love – if I didn't tell you why GSWA is such an important organization. It's spring and we can finally focus our attention outdoors. This spring, we have some fantastic programs and events that are the fusion of our science and education endeavors.

The first program is a citizen science project. GSWA is partnering with Rotary International and their high school counterparts, Interact Clubs. We are utilizing World Water Monitoring kits and four times per year we will be testing the water at various locations in our watershed and along the Passaic River for temperature, dissolved oxygen, pH, and turbidity. The results will be posted on our website and we will be able to track results along the span of the river, both seasonally and over time.

Although scientists use more sophisticated monitoring and data collection methods than are available using the World Water Monitoring kits to determine the health of our water systems and manage our water resources, it is our goal to build public awareness of our environment and its fragile nature. Conducting these simple tests will teach our citizen scientists about some common indicators of water health and get them personally involved in protecting our water resources.

In addition to this educational monitoring program, we are holding our Biennial BioBlitz on May 15 and 16. A BioBlitz is a 24-hour intensive inventory of everything that lives, grows, crawls, flies, swims or slithers in, through, on or over a particular area of land and water. At the end of the 24-hour period, we will have a tally of biodiversity encountered. In addition to gathering valuable data, the BioBlitz is a great opportunity for the public to see first hand what real scientists do. It gives us the ability to bring science to life. Instead of being dry and dusty, students can see that scientists' work is vital and real.

Of course, we are continuing with our Breakfast Briefings, our Citizen Advocacy Program, educating teachers, students and the public, performing chemical and visual assessments of our streams, and more.

Pollution of drinking water is the number one environmental concern of Americans, according to the 2009 Gallup Environment survey conducted in March. The four water-related issues on the poll took the top four spots in this year's list of environmental concerns, topping worries about air pollution and global warming. As guardian of the watershed, the Great Swamp Watershed Association is dedicated to protecting and improving water resources in the region by monitoring local streams, advocating for intelligent land use and educating our communities about water quality and quantity and their effect on the health and natural beauty of the local environment.

And that, ladies and gentlemen, is why I love my job... 

Spring into Action

Limber Up and Dust Off Your Bike

As promised, last fall's rained out **Ten Towns Bike Tour** has been rescheduled for **May 9, 2009**. So come out and join GSWA, in partnership with the Somerset Hills YMCA, for a 10, 15, 30 or 50 mile ride around the Great Swamp watershed.

Registration begins at 7:30 a.m. with the 50-mile ride beginning at 8:30 a.m. and all others at 9:30 a.m., starting from the parking lot of the Somerset Hills YMCA, 140 Mount Airy Rd, Basking Ridge. Open to adults, children and families, this event will guide riders of all levels through some or all of the ten towns in the Watershed, depending on the route you choose. All riders must wear an approved bicycle helmet.

Registration fees are \$5 per child, \$15 per adult and \$35 per family until May 2nd after which rates increase \$5 for adults and families. The fee includes a t-shirt, route map, and refreshments at rest stops. Registration forms are available at www.greatswamp.org and at the Y's welcome center desk. For more information, contact Donna Dourney of the Somerset Hills YMCA at 908-766-7898 x501.

Proceeds from the event will benefit the Strong Kids Annual Support Campaign, the Somerset Hills YMCA's Financial Assistance Program. Strong Kids funds free community programs and provides scholarships to community members unable to afford the cost associated with various Y programs and events.



Sign up for GSWA's Visual Stream Assessment Training

If you have a desire to explore the natural beauty of the Great Swamp Watershed and aid in a good cause, then sign up for GSWA's Visual Assessment Training. You don't need to be a trained scientist or have a PhD. All you need is a sharp eye and the ability to collect data.

The main reason for a visual stream assessment program is to increase the number of trained eyes observing what is going on in our streams and rivers. Even simple information, such as stream depth and width as well as the location of pools and riffles can be helpful. What wildlife is observable? What plants? Is the water surface covered with algae or a film? What condition are the stream banks in? Are there trees overhanging the water? And, of course, visual assessment team members can be the first to discover pollutants or man-made hazards in our waterways.

As a stream team volunteer, you'll be helping GSWA gather data on water bodies that are currently not being assessed by the staff of the NJDEP. This important data can be used in several ways. At the local level, it provides valuable information to municipalities. At the watershed level, it helps to identify or follow-up on areas in need of attention or remediation. At the state level, it serves to identify impaired waterways and provide baseline information for further studies.

This spring's training session will be held on **Sunday, April 26 from 9:30 a.m. to 1 p.m.**, starting with a classroom session followed by a field demonstration. Volunteers must agree to conduct visual assessments of their assigned/chosen stream section in the Great Swamp Watershed two times per calendar year using the NJDEP Visual Assessment protocol. One assessment needs to be conducted in May or June and one must be conducted in November or December on each section, so the minimum time commitment is one year.

To register, or for additional information, contact Kelley Curran, Director of Water Quality Programs at 973-538-3500 x16 or kcurran@greatswamp.org. 

GSWA Wraps Up its Spring CAP Presentations

Your last chance this spring to attend an evening session of GSWA's Citizen Advocacy Program (CAP) to learn how to become an effective advocate for improvement in your community is **Thursday, April 30**, at the Bernards Township Library in Basking Ridge. The program begins at 7 p.m. with a talk, followed by a Q&A. There is no charge and refreshments will be served.

The previous CAP presentations held last last year and earlier this year were very successful, each having been attended by 20-25 local residents who came both to learn effective ways to "Be Heard!" and to engage in informative and lively discussions.

If you can't make the April 30th evening presentation, CAP will be on the menu as the topic for GSWA's Tuesday, June 9, Breakfast Briefing.

For information, contact GSWA at 973-538-3500 x13 or srubin@greatswamp.org.

CAP is made possible through funding from The Watershed Institute. 

Calling Volunteers! National River Cleanup Day

Come out and join GSWA on **Saturday, June 6, 9:30 a.m. – noon** to tackle pollution and clean up Loantaka Brook as part of National River Cleanup Week 2009. The public is encouraged and invited to help.

This popular annual event, presented by American Rivers, raises public awareness of the magnitude of trash accumulating in our nation's waterways. Morris County volunteers will be joining tens of thousands of other volunteers across the country working at hundreds of cleanup sites to remove trash from local rivers and streams.

We'll meet at the Kitchell Pond Pavilion. Interested volunteers should call Kelley Curran at 973-538-3500, ext. 16 or e-mail kcurran@greatswamp.org. 

Spring/Summer Educational Programs

Join friends and members of GSWA for one or more of these educational programs to learn more about what's going on in and around the swamp! We ask that you pre-register for these programs to learn meeting locations and other information. Wear sturdy footwear and bring a snack for the walks. Bring binoculars or wildlife guides if you have them. These programs are free for members. For non-members, the fee is \$10 per adult, \$5 for each child five and over, and \$30 per family. Pre-registration is required. Visit www.greatswamp.org and click on our secure Event Registration page, or contact Hazel England, hengland@greatswamp.org.

Creatures of the Swamp – Pond Dip for Families

Sunday, June 14, 11 a.m. – 12:30 p.m.

Great Swamp National Wildlife Refuge, Long Hill Township

If you don't know a pollywog from a hellgrammite, a crayfish from a pond strider, we have the solution! Come and find out who the creatures of the swamp

are and what lives in the ponds and streams of the Great Swamp National Wildlife Refuge, with a "pond dip" especially for families. We will use dip nets to catch creatures, examine them and let them go. Make sure to wear clothes and footwear that can get wet! Children under 5 are free.

Secret Places of the Watershed – A Natural History Hike

Friday, June 26, 6:30 – 8 p.m.

GSWA Conservation Management Area, Harding Township

The Great Swamp Watershed Association owns 50 acres in Harding Township that we maintain as a Conservation Management Area. This forested wetland contains vernal pools, streams and woodland with wildflowers and wildlife aplenty. We will take an early evening stroll along the boardwalk trails, listening for birds and watching out for native plants in bloom. Cool and shady, we will escape the heat of summer in this important restoration area.

Moonlight Nature Hike

Saturday, July 11, 7 – 8:30 p.m.

Wildlife Observation Center, Great Swamp National Wildlife Refuge, Long Hill Township

While we don't guarantee the moonlight, there will be plenty of nature to learn about on this night hike around the watershed. We may hear many watershed animal inhabitants including owls, frogs, night insects or other night noises, perhaps even coyotes calling! Play some games to learn more about night senses, and revel in being out after dark without a flashlight! 🌿



Photo by Blaine Rothauser

What Everyone Should Know About Climate Change

Don't miss this special presentation by Anthony Broccoli of Rutgers University on **Wednesday, May 6, 7 – 8 p.m.** at GSWA Headquarters, 568 Tempe Wick Rd., Harding Township.

Come early and join us for complimentary refreshments and hors d'oeuvres beginning at 6 p.m.

This event is free and open to the public. Because seating is limited, we ask that you pre-register by calling our Event Info line at 973-538-3500 x22. For additional information, contact Sally Rubin, GSWA Executive Director at 973-538-3500 x13 or srubin@greatswamp.org. 🌿

Back by Popular Demand! Nature Photography Workshop

Have you ever wondered how wildlife photographers get those amazing pictures of birds, bugs and mammals that live the majority of their lives out of good camera range?

Join wildlife photographer Blaine Rothauser on **Saturday, April 25, 9 a.m. – 1 p.m.**, for a hands-on workshop to improve your wildlife photography skills. How do people in the wildlife photography trade get those images of animals that are rarely seen in the wild — like coyotes or great horned owls? All will be revealed during the first hour in an in-class presentation. Learn more about the use of photography blinds, infrared slaves, setup tanks and specialty field equipment. Then venture out as a group to see what the Great Swamp has to offer to photographers. Bring your own camera equipment and learn some tips and tricks for getting those great shots.

Event will take place rain or shine. Cost is \$25 for members, \$40 for non-members. Continental breakfast is included. Pre-register by visiting www.greatswamp.org or calling the GSWA Event Info line at 973-538-3500 x22. 🌿



Photo by Blaine Rothauser

Spring Workshop for Educators

Great Swamp Watershed Association facilitates a number of interesting and useful workshops for K-12 formal and non-formal educators, who will experience activities they can use back in the classroom or Nature Center to teach across the educational curriculum. The workshops are hands-on, led by Hazel England, an experienced naturalist educator, and provide participants with activity guides for each workshop. The 6-hour workshops are offered at little or minimal cost, and often include breakfast. They confer six NJDOE professional development credits too! For more information call Hazel, Director of Education and Outreach, (973) 538-3500 ext 20, email her at hengland@greatswamp.org or contact workshop locations directly to register.

Healthy Waters Healthy People Workshop

Wednesday, May 20, 2009, 9 a.m. - 3 p.m.

Morris County Great Swamp Outdoor Education Center, Chatham, (973) 635-9391

This workshop encourages investigation of the connections between water quality, the environment and human health. This is an advanced workshop best suited for educators of grades 6-12, who have basic water chemistry background. Participants receive six NJDOE professional development credits. Morning refreshments served. Cost \$15, including curriculum guide. Program will spend time outside; please dress appropriately. 🌳



Rise and Shine!

Don't miss our last two breakfast briefings of the Spring season. Each of these events is from 8 - 9:30 a.m. at GSWA Headquarters, 568 Tempe Wick Road, Harding Township (next to Jockey Hollow). A complimentary hot breakfast buffet is included, though donations are gratefully accepted. Seating is open to the public.



Tuesday, May 12: Backyard Composting

Presented by: Virginia Lamb

Learn how to turn kitchen and garden scraps into a valuable soil amendment. Backyard composting is a simple, inexpensive way to reduce waste and enhance your garden. This one hour program reviews all the steps necessary for successful backyard composting. Gardeners and non-gardeners alike will benefit.

Virginia Lamb is an environmental educator with over 20 years' experience developing and implementing public education programs for county and municipal governments, private companies, schools and non-profits.

Tuesday, June 9: Citizen Advocacy Program (CAP)

Presented by: GSWA

Learn to become an effective advocate for improvement in your community. We'll provide you with some tips and tricks to "Be Heard!" by local officials about environmental issues that concern you.

Because seating is limited, we ask that you pre-register by visiting www.greatswamp.org or calling our Events Line at 973-538-3500 x22.

In case you missed it...

The March 10th breakfast briefing, "Every Drop Counts," featured a presentation by NJ State Climatologist Dr. David Robinson who explained how we all — adults, children, families — can become more aware of how weather affects and impacts our lives simply by collecting rain, hail and snow right in our own backyards. If you weren't able to attend, you can still be a part of a real hands-on science project that helps meteorologists and climatologists capture precipitation data. Visit The Community Collaborative Rain, Hail and Snow Network's website, www.cocorahs.org, to learn more and sign up with CoCoRaHS as a volunteer precipitation observer. 🌧️

Did You Know?

Whole Foods is piloting a program with Preserve called Gimme 5 to collect #5 plastic commonly used in containers for yogurt, cottage cheese, hummus, medicine bottles...even Brita water filters. You can bring your #5 plastics to a drop-off bin at a participating Whole Foods store (locally Madison, Montclair and West Orange), and the store will send the plastic to Preserve to be made into such recycled household products as toothbrushes, razors, tableware and kitchen products. To learn more, or to find a participating drop off store near you, visit <http://blog.wholefoodsmarket.com/2009/01/gimme-5-recycling/>.

You can also mail your #5 plastic directly to Preserve. Visit their website, <http://www.preserveproducts.com/gimme5/>, for details.

Watershed Watch – Environmental Hot Spots

As part of our mission to protect the water you drink and the places you love, GSWA advocates for responsible development practices and promotes intelligent land use. We work to ensure compliance with environmental regulations and legislation at all levels of the government. Here are some areas we are currently focusing on:

Bernards Township

Millington Quarry continues to be the biggest issue in Bernards. The bad news is that the matter remains unresolved. The good news is that there has been no further importation of fill. GSWA continues to closely monitor this matter.

Additionally, Bernards Township recently passed a Pesticide Management System Resolution. This resolution is designed to minimize or eliminate the use of pesticides in township parks and other township owned properties.

Check out Bernards Township's website at www.bernards.org and visit their new "Green Guide" for information on various green initiatives.

Congratulations and kudos to Bernards Township for being a leader in environmental protection.

Bernardsville

The Shop Rite application for parking lot expansion has been passed. Included in the application is additional on site storm water detention for a minimum one year storm. We hope that GSWA participation influenced this outcome. Although this storm water control will not single handedly resolve the Penns Brook impairment, it is a step in the right direction.

Long Hill Township

The township is reviewing the Master Plan for Meyersville and soliciting resident input.

Morris Township

We are hoping that the preservation of the Delbarton/Abbey Woods property will be completed by June, 2009. We are pleased to be able to work with our public and private partners in this preservation.

Harding/Morris Township

There is an approximate 130 acre parcel being proposed for development called **Primrose Preserve**. It is located off Brook Drive South. It is bounded on the north by Primrose Brook and on the south by the Upper Passaic River. It has many environmentally sensitive features, including wetlands, steep slopes, and endangered species habitat. GSWA has retained a storm water expert and is participating in the Planning Board application process. One of the options we would like the town to consider is a Low Impact Development approach which could be better achieved through a compact neighborhood design.

Chatham Township

There is a pending Board of Adjustment application on behalf of the Chatham Day School. The application includes building construction, parking and lighting and may impact the buried aquifer. GSWA is attending meetings and monitoring this application for environmental impacts. 🌲

Tips You Can Use:

Composting

Excerpted from the Rutgers Cooperative Research & Extension's Fact Sheet on Home Composting at <http://njaes.rutgers.edu/pubs/publication.asp?pid=FS811>.

Composting is a natural process where organic materials decompose and are recycled into a dark, crumbly, earthy smelling soil conditioner known as "compost." Compost improves soil structure and moisture retention, and contributes to healthy plant growth by providing plant nutrients.

What to Compost

Vegetable food scraps
Grass clippings
Leaves
Flowers
Weeds
Sawdust and wood ash
Chopped twigs and branches
Coffee grounds with filters

What Not to Compost

Meat scraps
Diseased or insect infested plants
Weeds with seeds
Dog and cat feces
Food with grease or soap residues

To learn the steps for creating your own compost, come to GSWA's May 12th Breakfast Briefing on "Backyard Composting" presented by environmental educator Virginia Lamb.

Did You Know?

According to New Jersey American Water Company, each ton of recycled paper saves 7,000 gallons of water.

Please be sure to let us know if you change your e-mail address. Send a note with your old and new e-mail addresses to ddolan@greatswamp.org so you don't miss out on our monthly e-newsletters.

Volunteer Spotlight: Ann Campbell

by Debra Dolan, Manager of Communications and Member Services

When Hazel England, GSWA's Director of Outreach and Education, asked one of her trusty volunteers, Steve Gruber, if he knew of anyone who could help GSWA redesign its bare-bones website several years ago, he didn't hesitate to volunteer the services of his friend Ann Campbell. Though Ann had a Ph.D. in Biochemistry and an extensive technical background creating custom computerized data acquisition systems for scientific laboratories back then, she knew little about building websites. Undaunted, she raided the local libraries and bookstores in her mission to learn all she could about website design. Through determination and hard work, Ann rebuilt the GSWA



website four years ago, and has been our volunteer webmaster ever since.

Not only is GSWA grateful to Ann for stepping up to the challenge, but we very much appreciate how she has extended her involvement with the organization to include active participation in our Communications, Outreach & Education, and Science and Technology committees. And, in case you haven't noticed, Ann also designs our "Across the Watershed" newsletter (and our monthly e-newsletter, too).

On top of all of that, Ann will be hard at work at the BioBlitz 2009 hub electronically cataloging the event's findings (data and photos), and helping GSWA publish those "snapshot survey" results. A busy job, indeed.

Volunteers are such a critical part of the success of GSWA, and on behalf of the entire organization, I'd like to personally thank Ann Campbell for jumping in with both feet! 🌿

Interested in volunteering?

If you are interested in getting actively involved in efforts to protect and preserve the watershed, GSWA has a number of volunteer opportunities.

Fill out our volunteer profile at www.greatswamp.org/VolProfile.htm, or e-mail volunteer@greatswamp.org.

Eagle Scout Project Soars

by Hazel England, GSWA Director of Education and Outreach

With only days to spare, Ryan Sturm, a soon-to-be-eighteen year old from Chatham, raced against the weather to finish constructing a signage kiosk at GSWA's Conservation Management Area. Why the battle against frozen soil and bad winter weather to complete such a task? Ryan was finishing his Eagle Scout project and scouting regulations stated it must be completely finished by his eighteenth birthday.

Sturm, a Chatham based scout, had contacted GSWA last summer regarding the potential for undertaking his Eagle Scout award at the CMA. After discussing various possibilities he settled on a signage kiosk that would highlight animals of the Great



Swamp. Under his own steam, but with the obvious support of his willing parents, he researched some possible creatures to illustrate, matched the construction style of carving and painting onto corian

material of the existing signage at the site, designed a board to display the sign and marshaled his fellow scouts to help in his labors. The results are now installed just inside the entrance to the trails at the CMA and highlight the box turtles, Northern Water Snakes, Cardinals, Spring Peepers and other wildlife that can be discovered along the trails during a hike. Ryan also crafted and installed bat and owl boxes which you may spy high in the trees of the CMA.

Anyone is welcome to visit the CMA from dawn to dusk. Directions to the 50-acre site in Harding can be found on our website, www.greatswamp.org. 🌿

Watershed Streams: Degradation and Restoration

by the GSWA Stream Team and the Science & Technology Committee

The streams that flow through the Great Swamp watershed and eventually into the Passaic River play basic roles both for the natural environment as well as for the esthetic values of the region. Inevitably the presence of humans and their associated activities on our watershed lands have affected those streams often in harmful ways. One such aspect that has been a long-term concern of the GSWA Stream Team is monitoring water quality (refer to GSWA's water quality webpage at www.greatswamp.org/WaterQual.htm for additional information). Another area of concern is the physical and biological degradation of the streams owing to serious unchecked erosion. The result produced by erosion can be amazingly ugly as the accompanying photographs vividly illustrate.



Why has stream erosion become a problem? The increasing amount of paved surfaces that result from the construction of roads, homes, businesses, government

buildings and parking lots is a major contributor. In contrast to the situation in the Great Swamp watershed a century or two ago, significant rainstorms in more recent times create rapidly developing and powerful flood surges that imperil stream banks and stream beds, as well as anything else in its path. The result can be root exposure and toppling of trees at the stream's edge (see photos) as well as often irreversible damage to the plants and animals that rely on natural in-stream and streamside habitat. Furthermore, these flood surges produce undesirable transport of sediment downstream into the Great Swamp National Wildlife Refuge and finally into the Passaic River, a source of drinking water for over one million New Jersey residents.

Fortunately, an array of effective remedies is available to restore degraded streams. The table below lists just a few of the typical impairments and the restoration techniques that can be applied to improve the water quality in these degraded streams:

GSWA is very excited to currently be working on our very own stream



restoration project. The Association recently received an almost \$13,000 grant from The Watershed Institute to develop a restoration plan for the Silver Brook sub-watershed. This sub-watershed is a headwaters system of the larger Great Brook sub-watershed, a section of which traverses through GSWA's Conservation Management Area. Working with a consultant, the overall goal of the project is to formally evaluate the sources and nature of adverse stream conditions, develop a set of restoration management goals, and create a focused action plan for significantly improving stream flow, water quality, and channel habitat within Silver Brook and its tributaries. We expect that the restoration techniques outlined below will likely be part of the final plan.

The longer an erosive stream situation remains unattended, the more difficult and expensive its remediation becomes. Although GSWA is committed to monitoring all watershed streams, its resources are limited. We therefore invite readers to report developing stream problems to GSWA's Director of Water Quality Programs, Kelley Curran, at kcurran@greatswamp.org or 973-538-3500 x16 and/or your local Environmental Commissions. 🌿

IMPAIRMENT	RESULT	RESTORATION TECHNIQUE(S)	RESULT
Elevated fine sediment loads	Smothers fish eggs, depletes oxygen levels	Improve streamside vegetative cover	Filters out fine sediments
High stream flows	Erodes stream banks and bottom	Install or retrofit stormwater structures	Slows water down
High nutrient concentrations	Nuisance algal growth; depletes oxygen	Control of geese; limit use of fertilizers	Improves appearance, odor, and taste problems caused by nuisance algae

Annual Year End Appeal

GSWA would like to thank the following members and contributors who gave so generously to our 2008 Annual Year End Appeal:

Mr. & Mrs. Paul Acomb, Chatham
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Vancouver, British Columbia
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Mr. & Mrs. Leo York, Basking Ridge

GSWA Invites You to Support our 2009 "Wish List"

If you're wondering how member support is making a difference, here are just a few examples:

- \$25 buys a pond study kit for one classroom
- \$50 buys a stream flow kit — including "rubber duckies" for stream monitoring 
- \$100 helps buy native shrubs for restoration of the Conservation Management Area
- \$250 sponsors community outreach and education presentations and teacher workshops
- \$500 helps fund advocacy programs that educate citizens of all ages about the importance of preserving and protecting our limited natural resources
- \$1,000 buys deer exclosure fencing for three acres at the Conservation Management Area 

If you would like to make a donation, or encourage your friends and neighbors to become members of GSWA, visit www.greatswamp.org or call Debra Dolan at 973-538-3500, x21.

Welcome New Members

Special thanks to the following people who became members of GSWA between December 20, 2008 and March 27, 2009:

Robert & Rosalie Baker, Bernardsville
Mr. & Mrs. Jerry Ballanco, Basking Ridge
Mr. Frank Banisch, Flemington
Mr. Mark Baumgarten, Morristown
Mr. Jay F. Bitting, Chatham
The Breitman Family Foundation,
Green Brook
Walter and Lucie Brown, Basking Ridge
Mr. Joseph S. Buga, Chatham
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Mrs. Theresa Chen, Morristown
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Ms. Anne Englehardt, Summit
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Ms. Lynn M. Gockel, Basking Ridge

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Ms. Deborah Schmitt, Gillette
Mrs. Dorothy Smullen, Millington
Dr. Ernest Tucker, Morristown
Mr. & Mrs. Eugene Varney, Somerset
Ms. Joy Ward, Monroe Township
Mr. Morgan R. Watson, Chatham

Know Someone Who Would Like to Become a Member?

GSWA relies on members like you to help protect our watershed's natural resources. So please pass this newsletter along, and encourage your friends and neighbors to join us! Visit www.greatswamp.org for more information.

Reference Library

GSWA has a reference library for public use. If you're curious about the history of the Great Swamp, need to do research for a school project or term paper, or just want to peruse the variety of materials (books, videos, white papers, newspaper clippings, etc.) that can be found in our library, please give us a call at 973-538-3500 to let us know when you'd like to come by. We ask that you schedule an appointment for a weekday between 10 a.m. and 4 p.m. to make sure someone will be available to assist you. Our office is located at 568 Tempe Wick Road in Harding Township (next to Jockey Hollow).

Soon, our library catalog and select material will be available on-line through our website. Make sure to check www.greatswamp.org in the coming weeks for its debut. 🌳

Hats Off (and bug spray on)

Great Swamp Watershed Association is extremely grateful to employees of the following companies who have or will be generously volunteering their time through corporate workday projects at GSWA's Conservation Management Area.

Goldman Sachs
Ethicon, a Johnson & Johnson
company
Pfizer
Verizon

If the company you work for would be interested in partnering with GSWA on a community "giveback" project, please contact Hazel England, Director of Education and Outreach, at hengland@greatswamp.org.

GSWA has been able to line up a total of 10 six-hour workdays between April and July, 2009 thanks to the support of these corporations through their community involvement initiatives. 🌳



Chipping sparrow and spring blossoms
© Blaine Rothauer

Did You Know?

Home Depot stores in the area are accepting tape rolls, paint brushes, saw blades, nursery pots, furnace filters, plastic bags, and fertilizer and soil bags to help keep non-recyclables out of the landfill! Home Depot (www.homedepot.com) has teamed up with TerraCycle (www.terracycle.net) who will turn these materials into new eco-friendly products! And, \$0.02 will be donated to a local charity for every item returned.

BioBlitz 2009 *(continued from page 1)*

local diversity, but how scientists identify the differences between the warblers they are watching, the mushrooms they are seeking, or the insects they are netting. A combination of displays, walks and talks will acquaint attendees with how turtles are radio-tracked through the swamps of the refuge, how to identify frogs by their calls, the diversity of bats within the refuge and much more. Students learn about the diversity of the tropical rainforests, and it is fun to be able to highlight local biodiversity, those species that might live in a Great Swamp resident's own backyard but have never been seen before. Check out the schedule of programs on page 2, and be sure to visit GSWA's website for the most up-to-date information on the activities being offered starting the evening of Friday, May 15th and concluding at 5 p.m. on Saturday, May 16th.



Every major group, or taxa, of animals and plants will have a team assigned to look for as many species as possible within the survey time period. You can brush up on your NY Times crossword skills, as well as survey potential biological careers as you learn what ichthyologists, entomologists, mycologists, bryologists



and the better-known ornithologists are all looking for!!

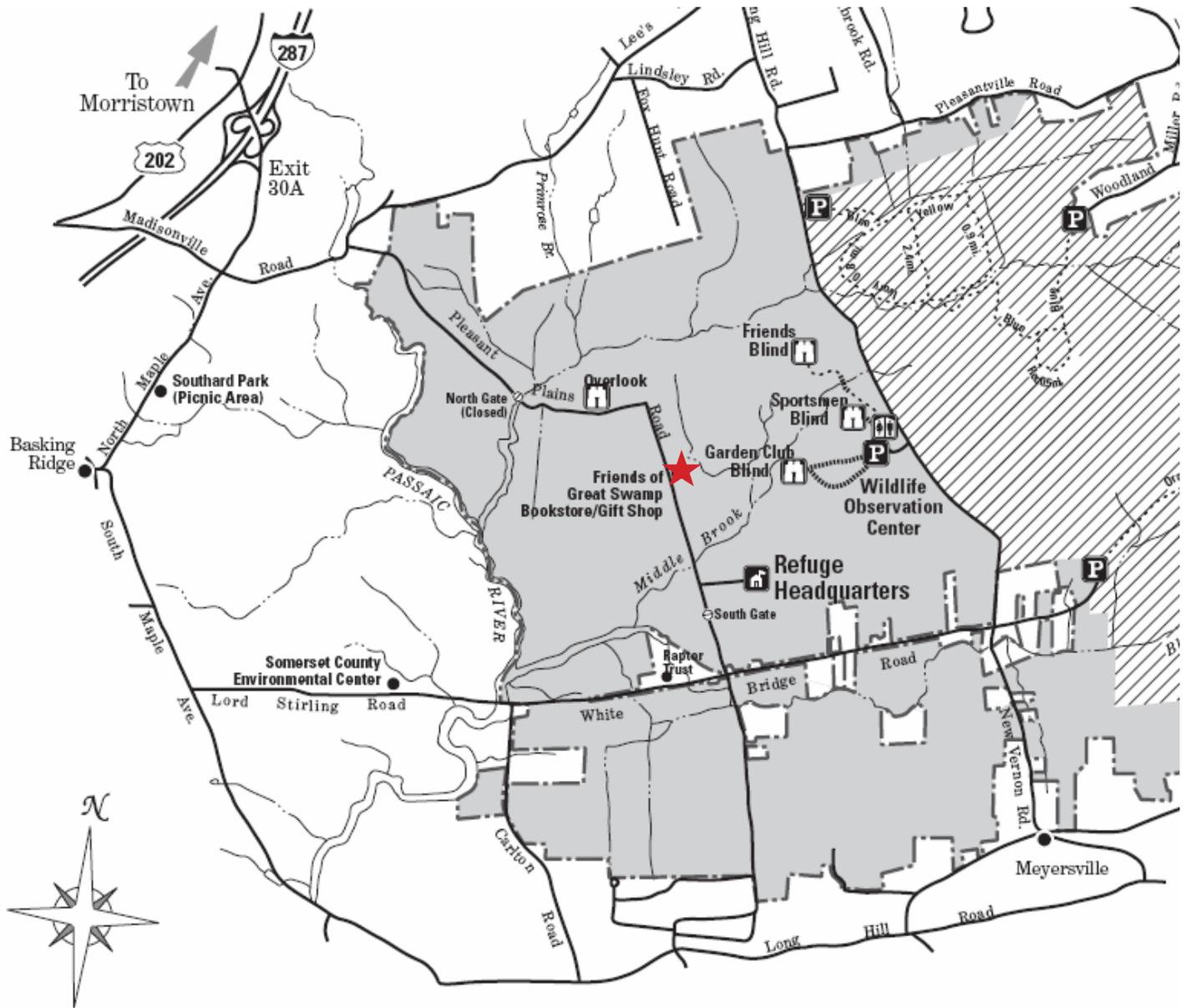
You may assist and learn from these experts as you observe them work over the 24-hour period. If you know your birds, why not volunteer ahead of time to help with the birding surveys. If you don't know a soapwort from a sedge, come by to show your interest in the other inhabitants of the Great Swamp. While there are no guarantees as to what scientists will find, the hourly results will

be posted at the Bioblitz hub, so you can see the species tally and watch a revolving slideshow of the creatures found. And while you're there, you can support the event by purchasing a raffle ticket for the chance to win a mountain bike, a pair of binoculars or an MP3 player!

Local schools are invited to participate by holding their own BioBlitz, using school grounds as their survey site. Carefully developed curriculum materials

(continued on next page)





BioBlitz 2009 (continued from previous page)

that are age appropriate and require little natural history background will be available to guide students assaying



groups of living things and reporting their findings on the GSWA web site to share with all. "This is a great chance for local area students to see how real science works, and to take part in their own surveys to discover what lives in their very own schoolyards," said Dorothy Smullen, a retired teacher and member of Friends of Great Swamp. BioBlitz education materials can be downloaded from the GSWA website at www.greatswamp.org.

We hope you will be a part of BioBlitz 2009, and get the Biodiversity bug! 🐞



The photos accompanying this article were taken during the 2007 BioBlitz.

Directions to the BioBlitz Hub

Friends of Great Swamp Bookstore & Gift Shop, 197 Pleasant Plains Road, Basking Ridge, NJ 07920:

From I-287:

- Take exit 30A (Basking Ridge/North Maple Avenue) and bear right onto North Maple Avenue.
- Go through traffic light at Madisonville Road (ignore the refuge directional sign pointing left at Madisonville Road) and continue on North Maple Avenue.
- After one mile North Maple will bear left and become South Maple Avenue.
- Continue on South Maple Avenue for one mile and turn left on Lord Stirling Road.
- After 1.3 miles (last part is a dirt road) and pass over a bridge on the Passaic River (the road name changes to White Bridge Road).
- From the bridge on White Bridge Road continue straight on White Bridge Road for 1.0 mile and turn left onto Pleasant Plains Road.
- Continue on Pleasant Plains road for another 0.5 miles to BioBlitz Hub at the Friends Bookstore & Gift Shop, on the right.



From I-78:

- Take exit 40, (Gillette) and turn right onto Hillcrest Road (County Road 531) from 78W, left onto Hillcrest from 78E.
- Go to stop sign (1 mile), cross Mountain Avenue, staying on Hillcrest Road (CR 531). (Hillcrest Road becomes Mountain Avenue after passing over the Passaic River Bridge.)
- Go straight through the traffic light at the intersection with County Road 512, and continue on Mountain Avenue (aka County Road 638).
- Go 1.3 miles to the top of the hill and cross over Long Hill Road onto Meyersville Road.
- Go down Meyersville Road 0.8 miles to circle, turn left onto New Vernon Road.
- Travel on New Vernon Road to the first intersection, White Bridge Road.
- Turn left and continue 1.0 mile to the intersection with Pleasant Plains Road.
- Turn right onto Pleasant Plains Road and go through the “gate”.
- Continue on Pleasant Plains road for another 0.5 miles; the BioBlitz Hub at the Friends Bookstore & Gift Shop is on the right.



2009 BioBlitz Raffle

Yes! I'd like to support Great Swamp Watershed Association by purchasing a raffle ticket.

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: (_____) _____ Home ___ Work ___

Email Address: _____

Number of Tickets I wish to buy @ \$20 per ticket _____ Total \$ _____

A check to Great Swamp Watershed Association is enclosed.

Please securely charge my Visa MasterCard American Express Discover

Card Number: _____ Exp. Date: _____

Mail by May 10, 2009 to: GREAT SWAMP WATERSHED ASSOCIATION BIOBLITZ RAFFLE
P.O. Box 300, New Vernon, NJ 07976

Win a Mountain Bike, Binoculars or MP3 player!

Buy a chance to win a mountain bike package worth over \$500, a pair of Legacy 7x35 binoculars, or a 1GB MP3 player, all for a ticket price of \$20!

Win your own set of two wheels to let you ride the byways of Great Swamp Watershed as we hold our Great BioBlitz Raffle!

Grand prize: will include a brand new Trek Series 3900 adult mountain bike, sized for your frame, helmet and several great extras, worth over \$500. The winner will pick up his or her bike from HIGH GEAR CYCLERY in Stirling, who has kindly donated to BioBlitz 2009.

Second prize: 7x35 Binoculars to really focus on all the local biodiversity within the Great Swamp, donated by



NEW JERSEY AUDUBON, valued at \$120.

Third prize: A 1GB MP3 player so that you can load all your favorite environmental songs to listen to as you workout or drive, valued at \$80.

Tickets are \$20 each. Drawing will take place on May 16th, 2009, at 2 p.m. at the BioBlitz.

To purchase a ticket, mail in the form on the previous page or on our website, or call us at (973) 538-3500.

You may also purchase your ticket at the BioBlitz on May 15-16. But hurry, only 120 tickets will be sold.

All proceeds benefit GSWA's educational and BioBlitz programs. 🌲

GSWA Experts Available to Speak to Area Groups

Do you wonder, "What is in my water?" or "What can I do to ensure clean water for my children?" These questions and dozens more about water quality, land preservation and local efforts to protect the environment can be answered by GSWA's Speakers' Bureau. Experts from the Great Swamp Watershed Association will present interesting, hands-on presentations that will educate and inspire members of your local club or group. Call today for more details: (973) 538-3500 x13.



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GREAT SWAMP WATERSHED ASSOCIATION

Post Office Box 300
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(973) 538-3500
www.greatswamp.org

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