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Spring 2007

The Great Swamp Watershed Association

Vol. 27 No. 2

Exploring Our Own Backyard: 24-Hour BioBlitz to Uncover All Creatures Great & Small

If you ever walk, jog, bike, or explore the Loantaka Brook Reservation in Morris Township, you may be familiar with the array of birds, mammals and insects that inhabit the area. But what you don't know about may surprise you!

Join us on **Friday, May 18, and Saturday, May 19**, as we team up with local scientists, environmentalists, teachers, students and others to conduct the region's first BioBlitz—a 24-hour race to identify as many species as possible before the clock runs out!

The BioBlitz, cosponsored by the Morris County Park Commission, is an attempt to



Gray Squirrel
© Blaine Rothausser

survey every living organism that swims, walks, flies, grows, crawls, or otherwise calls the Loantaka Brook area home. At the end of this around-the-clock blitz, a tally of the total number of species encountered in this headwater stream to the Great Swamp will be collected and published. The findings will help us assess the biological diversity of the area, and ultimately its environmental health.

When: Friday, May 18, 7 - 9 p.m.,
Saturday, May 19, 7:30 a.m. - 5 p.m.
Where: Morris County Park Commission's
Loantaka Brook Reservation,
South Street Pavilion

The BioBlitz is an intensive "snapshot survey"—part contest, part scientific research and part educational opportunity—bringing together biological experts from local scientific institutions, nature clubs, and government wildlife agencies. You may assist these experts and learn from them as you observe them work over the 24-hour period.

While there are no guarantees as to what scientists will find in May, each biologist might harbor secret hopes of discovering his or her own "Holy Grail." Mycologists (the 'mushroom hunters') may seek out a Destroying Angel, Ichthyologists ('fish finders') will be excited with a Mad Tom Catfish, Herpetologists (reptile and amphibian folks) may look for an Endangered Wood Turtle or a Smooth Green snake, while the Ornithologists (bird seekers) will be ecstatic over a sighting of a Scarlet Tanager.

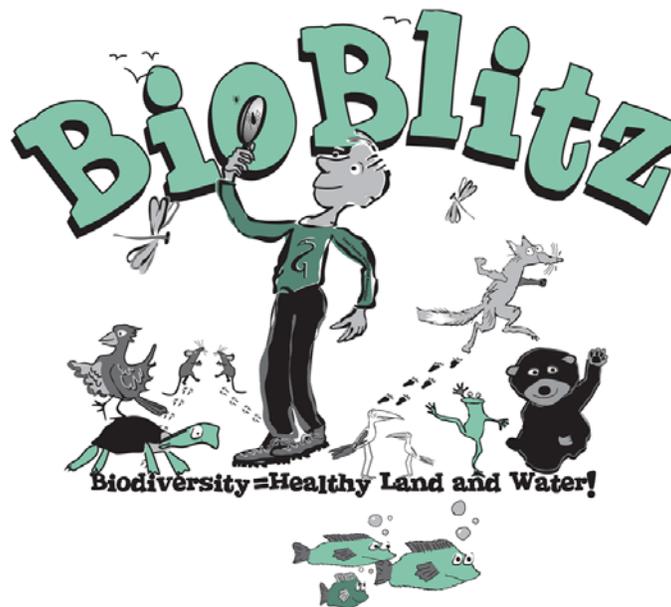


Ebony Jewelwing
© Blaine Rothausser

Every major group, or taxa, of animals and plants will have a team assigned to look for as many species as possible within the time period.

The BioBlitz will be a great chance for people to see first hand what scientists are doing, and to participate in educational events with an emphasis on natural history and biodiversity. Everyone is invited to interact with the scientists at the BioBlitz hub, to watch how the species identification

(Continued on page 2)



Presented by the Great Swamp Watershed Association in partnership with the Morris County Park Commission.

BioBlitz *(Continued from page 1)*

occurs, and learn the detective process involved in correctly identifying a found creature. Then, armed with these new skills, you're encouraged to head out to the trails and conduct your own mini BioBlitz activity, with prizes for all those who complete the mini survey.



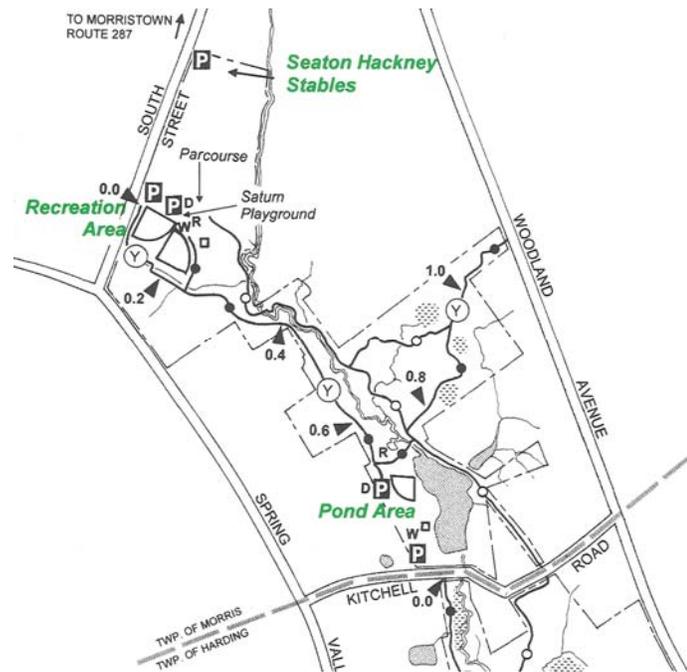
Red-winged Blackbird
© Blaine Rothausier

Check out our web site, www.greatswamp.org, for more details about the BioBlitz—just click on the BioBlitz logo. We're planning a series of events, from night hikes to listen for nocturnal species to macro-invertebrate stream surveys, and bird, butterfly and wildflower identification walks (see the schedule on page 7). There will be a nominal charge of \$3 per person for these programs.

Local schools are invited to participate by holding their own BioBlitz, using school grounds as their survey site. Carefully developed curriculum materials that are age appropriate and require little natural history background will be available to guide students assaying groups of living things and reporting their data on the GSWA web site to share with all.



"This is a tremendous and unique opportunity for all area students to get excited about science, and to discover for themselves the varied species that exist throughout the Great



Map showing the north end of MCPC's Loantaka Brook Reservation where the BioBlitz' public events will be held. BioBlitz hub is at the Recreation Area. The BioBlitz will take place over the full Reservation.

Win a Mountain Bike!

Buy a 1/100 chance to get your hands on a great mountain bike package worth \$500-600, all for a ticket price of \$15!



Win a chance to own your own set of two wheels to let you ride around the trails and byways of Great Swamp Watershed as we hold our great Mountain Bike Raffle!

The package will include a brand new adult mountain bike, helmet and several great extras, worth between \$500-600. We will even throw in a Great Swamp Watershed Association t-shirt and water bottle for the lucky winner!

Tickets are \$15 each and only 100 tickets will be sold. Buy your ticket online at our secure pay site at www.greatswamp.org, by clicking on "Win a Mountain Bike," or purchase your ticket at the BioBlitz on May 19, 2007, where the drawing will take place.

All proceeds will benefit the Great Swamp Watershed Association's Educational and BioBlitz activities.

Swamp Watershed," said Jenny Gaus, Superintendent of Environmental Education at MCPC.

Hazel England, GSWA's director of Outreach and Education added: "Whatever the outcome of the 24-hour event, by focusing so closely on the variety of life that lives in the Loantaka Brook Reservation, we can draw some conclusions about the health of the land and waters in this part of the Great Swamp Watershed."

The presence or absence of species can be a great indicator of habitat health. Finding top of the food chain indicator species, also known as keystone species, can be a sign of a healthy, functioning ecosystem. The presence of certain macro-invertebrates in the brook may signify a great deal about water chemistry and quality. Absence of an expected shrub or

(Continued on page 7)

Directions to the Loantaka Brook Reservation and BioBlitz Hub

From I-287 Northbound: Take exit 35 and turn left onto Madison Avenue. Proceed to the first traffic light and turn left on South Street. Continue for approximately ½ mile to the Loantaka Brook Recreation Area entrance on the left.

From I-287 Southbound: Take exit 35. At the end of the ramp, turn right onto Madison Avenue. Travel to the traffic light and turn left onto South Street. Continue for approximately ½ mile to the Loantaka Brook Recreation Area entrance on the left.

From Route 124, East or West: Proceed to and follow South Street. Loantaka Brook Recreation Area is on the left about ½ mile past Woodland Avenue.

Across the Watershed is a quarterly publication of the Great Swamp Watershed Association. The Watershed Association is a membership-based nonprofit that protects drinking water, and preserves land to maintain the natural beauty and enhance the livability of *your* town.

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Across the Watershed

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Kelley Curran
Hazel England
Joan Fischer

From the Desk of the Executive Director

by Joan G. Fischer



As I write this column, I am watching the ice and snow blow through the bare trees, thinking that this storm may be the first and last of winter's bluster before spring is upon us. We've made good use of the winter months here at GSWA and there is much to report.

Among the most innovative and exciting news is our BioBlitz—a 24-hour-event on May 18-19. In conjunction with Morris County Parks, we will conduct an intensive inventory of plant and animal species within a small slice of Loantaka Brook and its banks. Participating scientists will identify and tally up all that they find giving us a snapshot description of the health of that ecosystem. The greater the tally, the healthier the land and water in this part of our watershed. See our complete calendar of events on page 4 for more information.

This newsletter is one of the most important ways that we communicate upcoming events and critical land and water issues with our members. In order to make it as interesting and useful as possible, we've begun to analyze its format and content. Thank you to everyone who has responded to our online survey. Your opinions and suggestions are most helpful, and you can expect to see some changes in future issues. We're also taking a look at our other communications, and will be sharpening our focus and messages in order to attract more members and volunteers to GSWA.

In issues of advocacy, we have lots to report. Regarding the Abbey Woods at Delbarton, we had retained the Rutgers Environmental Law clinic to file a motion to permit us to intervene in the developer's appeal of the DEP decision, which had precluded development of the CCRC. We have filed the motion to intervene, but neither the DEP nor the Administrative Court of Law has as yet taken action. We'll continue to follow up with our attorneys.

We've got good news to report about the proposed development of the Rolling Knolls Landfill Superfund site in Green Village, Chatham Township. The property's prior use as a landfill left it with unacceptable levels for metals, phthalates, and polychlorinated biphenyls (PCBs), a contaminated terrestrial sensitive environment, and a potential for danger to nearby residents. There is documented observed release of mercury and PCBs in a portion of the landfill that is actually within the Federal Wildlife Refuge. Drainage from the landfill flows directly to Black Brook and to Great Brook via Loantaka Brook, all of which ultimately discharge to the Passaic River, whose flow provides fish to eat and water to drink.

A private developer asked Chatham Township to change its Master Plan and zoning ordinances to permit the site to be developed with high density residential housing and recreational fields. The Chatham Township Planning Board, after considering the developer's conceptual plans and hearing public comment, including comment by members of GSWA Land Use-Local Issues committee, recommended to the Town Committee that the zoning changes required by the proposed development not be granted. The Town Committee unanimously agreed.

Thanks to informed and active citizens, the hard work of our committee, and open and informed municipal officials, this proposed intense residential development on a 200-acre Superfund site, in a quaint and historic area, will not proceed at this time. However, we remain vigilant in this matter, and continue to work with local, state and federal agencies in order to ensure that there will be no future applications for developments, which would jeopardize the health and beauty of natural resources—and the character of a village—in the heart of our watershed.

(Continued on page 8)

Event Calendar

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 vital information. Wear sturdy footwear and bring a snack for the walks. Bring binoculars or wildlife guides if you have them.

Cost is \$8 per member, \$10 per non-member, children under 5 free. All children welcome. Join GSWA and receive a coupon entitling you to a FREE member event.

To register, go to our event registration page on our website, www.greatswamp.org.

For more information, e-mail Hazel England at hazele@greatswamp.org.



Scouts and their families participate in hands-on activities and games to learn more about the Great Swamp Watershed.

Community Workday at the GSWA Conservation Management Area

Come and help staff and volunteers from Great Swamp Watershed Association in their hands on land management of the 50-acre Conservation Management Area in Harding Township. We'll spend the morning spreading wood chips, clearing invasive species and fixing boardwalk and deer fencing. Wear your old clothes, bring your gloves and join us to protect and improve the lands of the watershed. Children 8 and older welcome with their parents or guardians. Community service credit given to school students who attend. No charge, but we ask you to preregister to help us plan our work schedule.

Saturday, April 21, 9:00 a.m. - 1:00 p.m. at the GSWA Conservation Management Area, Harding Township.

Creatures of the Swamp – Pond Dip for Families

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. This program is particularly suitable for families with children. Make sure they wear clothes and footwear that can get wet! Children under 5 are free.

Friday, June 1, 5:00 - 6:30 p.m. at the Great Swamp National Wildlife Refuge, Long Hill Township.



Moonlight Nature Hikes

While we don't guarantee the moonlight, there will be plenty of nature to learn about on these night hikes 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!

Saturday, June 30, 7:00 - 9:00 p.m., at the Great Swamp National Wildlife Refuge, Long Hill Township.

Sunday, July 29, 7:00 - 9:00 p.m. at the Cross Estate, Morristown National Historical Park.

Secret Places of the Watershed – A Natural History Hike

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.

Friday, July 6, 6:00 - 7:30 p.m. at the GSWA Conservation Management Area, Harding Township.

Workshops for Educators

Schoolyard Habit Enhancement

Learn how to enhance your school grounds to create habitats for wildlife, improve water quality and offer students areas to study without costly field trips. You don't need a country setting for habitat enhancement to work. Designed for K-12 educators in all subject areas, this workshop, co-sponsored by GSWA and the Morris County Park Commission, explores the process of creating an outdoor place for learning, including mapping, site design and correlation to your existing curriculum. Earn 6 NJDOE credits.

Monday, April 30, 9:00 a.m. to 3:00 p.m. Fee: \$10. Includes breakfast and refreshments. Pre-registration required. Call the Morris County Park Commission Outdoor Education Center at (973) 635-9391.

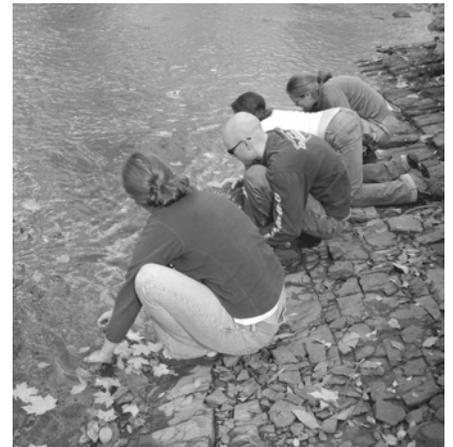


Teacher workshop attendees participating in hands-on activities they can use with their students to teach about water quality, pollution, and wetland functions.

The Wonder of Wetlands WOW! Workshop

WOW is an instructional guide for K-12 formal and non formal educators that provides a resourceful and creative collection of wetland activities, information, and ideas. WOW! includes: over 50 hands-on multidisciplinary activities in lesson plan format, extensive background information on wetlands, ideas for student action projects, and a wetlands resource guide. WOW! has been called, "the most comprehensive introduction to wetland issues and definitions." This workshop is sponsored jointly with Union County Park Commission and held at Trailside Nature Center. It is great for educators who have access to, or are considering, creating their own wetland site.

Thursday, May 31, 9:00 a.m. to 3:00 p.m. Fee approximately \$25. Includes breakfast and refreshments. Pre-registration required. Call the Trailside Nature Center, Watchung Reservation, at (908) 789-3670 to register.



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Water Quality & Biodiversity

by Kelley Curran, GSWA Stream Team, and Science & Technology Committee

GSWA's Stream Team is devoted to monitoring the health of the five streams in our watershed. While there are several factors that determine the health of a stream, two of the most important are water quality and the health and diversity of the organisms inhabiting its environmental niche. These factors are not independent. The water quality inevitably exerts a powerful influence on the populations of plant and animal species living within and along the banks of a stream.

Based on these factors, the most impaired stream in our watershed is Loantaka Brook. The Stream Team, with funding from our Corporate Council, has been monitoring this stream's health over the last three years by testing water samples quarterly. The samples are analyzed by an NJDEP certified laboratory to determine contaminant levels. The tests determine concentrations of Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Nitrate, Total Kjeldahl Nitrogen (TKN), Soluble Reactive Phosphate (SRP), Sodium and Chloride.

Results of chemical analyses performed on the stream samples taken from Loantaka Brook indicate several pollution problems in its headwaters. Stormwater runoff introduces contaminants from several distinct sources. The observed high levels of TDS, sodium, and chloride likely originate from winter application of de-icing salt, but persist year-round. High nutrient levels found in Loantaka Brook probably represent a combination of sources including runoff from playing fields (fertilizer application), from horse stables, from the Woodland Sewage Treatment Plant discharge, and from Canada Goose droppings. Elevated levels of these pollutants exert significant effects on the biological diversity in Loantaka Brook.

The Ten Towns Great Swamp Watershed Management Committee ("Ten Towns Committee"), a GSWA partner composed largely of representatives from the ten towns comprising the Great Swamp watershed, has secured a specialist in the sampling and identification of macroinvertebrates (MIVs, mainly insect larvae) for the past several years. Many species of MIVs are diagnostic for specific kinds of habitats and their water quality. These species are known as indicator organisms. GSWA is fortunate to be among the select recipients of the MIV data, which is collected every June in the watershed. The conventional metric, or quantitative measure, used to specify the quality of the MIV community present in a stream is called the Benthic Index of Biological Integrity (B-IBI). This metric combines several distinctive, stress-influenced community characteristics into a single aggregate value serving as a "quality score" for each sampling site. In view of the Loantaka Brook chemical contaminant results, it should come as no surprise that the B-IBI results for all four sampling sites along that stream have fallen into the "poor" or "very poor" categories.

GSWA's impending BioBlitz event scheduled for May 18-19 will generate additional information on Loantaka Brook water quality and biodiversity. The BioBlitz will take place within the Loantaka Brook Reservation, a Morris County Park lying within Morris, Harding, and Chatham Townships. It contains a roughly 3-mile stretch of Loantaka Brook, including Kitchell Pond. Beside conducting a broad inventory of plant and animal species throughout the park, scientists and naturalists will be leading teams to focus on water quality, and MIV sampling and identification. Longer term, we anticipate the findings will lead to practical suggestions for improving the water quality and biological diversity along Loantaka Brook.



A student collects water quality data at a macroinvertebrate site.

The Ten Towns in the Great Swamp Watershed

Bernardsville
Bernards Township
Chatham Township
Harding Township
Long Hill Township
Madison Borough
Mendham Borough
Mendham Township
Morristown
Morris Township

BioBlitz – Schedule of Public Programs

Join us on BioBlitz weekend to participate in these great activities at Morris County Park Commission's Loantaka Brook Reservation, site of our BioBlitz. We ask that you pre-register for these events by calling the Great Swamp Outdoor Education Center at (973) 635-6629. The charge for these programs is \$3 per person, unless otherwise noted. Please note that some programs are particularly appropriate for a particular age group. This schedule may be subject to change.

Friday Night, May 18, 2007

Nighttime Adventure: Listen for frogs, owls, and seek out bats and other nocturnal insects as we kick off our BioBlitz with a chance for participants to see whooo's out at night. **Ages 8 and up. 7:30 - 9:00 p.m.**

Saturday, May 19, 2007

Early Morning Birding Basics: Ornithologists on the BioBlitz team may well see or hear over 70 species of birds as they scour the park 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, or you may borrow them from us. **Best suited for adults and children over 9. 7:30 - 9:00 a.m.**

Insect Investigation: 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! **Ages 5 and up. 9:00 - 10:30 a.m.**

Search for Stream Critters (Macro-Invertebrates): Get down and dirty in the stream and see the creatures that call it home up close! Learn how these macro-invertebrates can help scientists determine how clean the water is. Wear rubber boots or borrow ours! **For ages 8 & up. 10:30 a.m. - noon.**

Raptor Trust Presentation: Learn about New Jersey's magnificent birds of prey as the raptor trust lead 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. FREE. 1:00 - 2:00 p.m.**

Wildflower Walk: Who could resist the chance to learn more about what's growing at Loantaka Brook? 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. **Ages 5 and up. 2:00 - 3:30 p.m.**

Mini BioBlitz: Pick up our BioBlitz brochure and conduct your family's own BioBlitz on the trails of Loantaka. You will use your observation skills to spot different kinds of plants and animals, as well as learning 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. FREE. Ongoing all day.**

BioBlitz Closing Ceremonies: Join us as we celebrate the day's successes, share exciting and unusual finds, tally our total and draw our mountain bike raffle. **FREE. 4:00 - 5:00 p.m.**

Taxon Talks: Scientists will talk about their endeavors, identify the species they have encountered and explain how they conduct their research. Take a short stroll with them as they go about their BioBlitz business. **FREE. Times to be announced on Saturday.**

BioBlitz (Continued from page 2)

plant may reveal deer browse rates and their impact. Particular pest insect species found may give advance warning of changes to forest composition as trees are attacked by the pest.

Just as taking the temperature of a patient gives clues to disease or health, but is not the same as a full body MRI, a BioBlitz can give an assessment of relative health or sickness for a patch of land and water, but it doesn't take the place of long term monitoring (see *Water Quality & Biodiversity*, page 6). The GSWA stream team has



Fiddleheads
© Blaine Rothausser

been carrying out water quality monitoring along Loantaka Brook for eight years, and is now working with the Morris County Park Commission to put plans in place to restore the most degraded site. Information collected from our BioBlitz will be of direct help in their efforts to begin restoration.

We hope you will join us in this first BioBlitz. And, look for our analysis of the findings, which will provide valuable clues to the health of Loantaka Brook and the lands and waters of the Great Swamp.

For more information about the BioBlitz, check out our website at www.greatswamp.org or e-mail Hazel England, Director of Outreach and Education, at hazele@greatswamp.org.

From the Desk... (Continued from page 3)

A new land use issue has arisen: expansion of the Morristown Airport located in Hanover Township. The proposed expansion depends upon the DEP granting two related individual permits to fill freshwater wetlands in an area already known for its flooding. If the applications are granted, the result will be increased flooding and destruction of the flood hazard area and wetland wildlife habitat. Although the airport itself is not in the Great Swamp Watershed, its expansion and concomitant wetlands destruction will affect our entire region, and is eerily reminiscent of the jetport project that spawned our Association's birth. On behalf of GSWA, I attended the public hearing on the application, submitted written comments to the DEP, and in the event the permits are granted, will lend our support to those organizations leading the charge in this matter.

Joan G. Fischer



At 3 feet, 7 inches long, this male otter was a very healthy 37 pounds before being struck and killed by a car driving near the Morristown Airport and the surrounding wetlands. This sensitive and important ecosystem—home to otters and many other forms of wildlife—is being threatened by a proposed expansion to the airport's hangar facility.

Memorials

Mr. and Mrs. Gary Ruckelshaus
in memory of Helen Fenske

Garden Club of Madison in memory of Helen Fenske

Know Someone Who Isn't a Member?

GSWA relies on membership fees to help protect the land and water in your town. When you're done reading, please pass this newsletter along and encourage your friends and neighbors to join us! Visit www.greatswamp.org.

Contact us at 973.538.3500 or visit our web site at www.greatswamp.org

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Non-Profit Organization
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