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# ACROSS THE WATERSHED

2005 - 2006  
Annual Report  
Inside

07976

Fall 2006

The Great Swamp Watershed Association

Vol. 26 No.4

## Annual Event Will Celebrate 25 Years!

by John Malay

Great Swamp Watershed Association was created in 1981 to protect the water and land in the Great Swamp watershed. For 25 years the Watershed Association has been acting on behalf of our communities to ensure that our water is safe and pure and our open space is protected.

The Watershed Association will celebrate its 25th Anniversary with "A Salute To Silver" celebration to be held at the Brooklake Country Club, in Florham Park on Friday, November 17, 2006. The keynote speaker will be former New Jersey Governor Thomas Kean.



Brooklake Country Club, Florham Park, NJ

commission since the Warren Commission.

Governor Kean had a strong environmental record while serving as Governor of New Jersey. He made environmental protection a priority and enacted some of the nation's strictest environmental laws, including the Environmental Cleanup and Responsibility Act (1983) and the Wetlands Protection Act (1987). A life-long

conservationist, Governor Kean has worked hard to protect our air, water and open space. As a current resident of Far Hills, he continues to lend his name and support to environmental causes in our state.

### Former Governor Kean Will Be Keynote Speaker

Governor Kean served as Governor of New Jersey from 1982 to 1990 and was appointed president of Drew University in 1990. In 2002, Governor Kean was appointed by President George W. Bush to chair the National Commission on Terrorist Attacks Upon the United States, widely known as the "9/11 Commission," which has been considered the most influential independent government

### The Marcellus Hartley Dodge Award

In addition to his keynote address, Governor Kean will be this year's recipient of the Marcellus Hartley Dodge Award. The Dodge Award is presented annually to the person who, in the opinion of the GSWA Board of Trustees, has made a significant impact on natural, cultural and historic preservation in the Watershed.

It is named for the late owner of Hartley Farm in Harding and Morris Townships. Together with his wife, Geraldine Rockefeller Dodge, Mr. Dodge engaged in numerous philanthropies.

He was a trustee of the North American Wildlife Foundation, and helped purchase the land that became Key Deer National Wildlife Refuge in Florida. Dodge also donated 51 acres in Chatham and Harding Townships to the Morris County Park Commission, to be held to perpetuity as a natural forest, dubbed the Helen Hartley Jenkins Woods.

His name on the award most importantly arises from the fact that he was a prime contributor in the struggle to save the Great Swamp from the Port Authority of New York and New Jersey, when they wished to build a third major Metropolitan area jetport. The

*continued on page 9*

### Our 25th Anniversary Event Sponsors



Wyeth

# Nurturing Nature

## How Modern Wastewater Treatment Plants Maximize Natural Processes to Clean Up Water

by the Science & Technology Committee

*Ed. Note: Members of the Science & Technology Committee participated in a guided tour of the Woodland Water Pollution Control Utility in September. This is their report.*

Perhaps the end of our tour of the Woodland Water Pollution Control Utility should have been the beginning, for nowhere was it clearer — literally — the purpose of the treatment plant. In the Quality Control Lab stood two glass containers: the one on the left held raw influent which was cloudy and somewhat milky-looking. The one on the right held treated effluent and was indistinguishable visibly from tap water. Inputs and outputs. Cloudy versus clear.



*The Woodland Water Pollution Control Utility, in Morris Township on Loantaka Brook. Image from Google Earth.*

Nutrient-dense versus acceptable for environmental discharge. Before and after toxic organic and inorganic compounds accumulated in bacteria and were then precipitated out as sludge. Prior to bacteria/viruses/protozoa getting zapped with a sterilizing dose of ultraviolet light (UVC) and after the fact.

Most people would be stunned to learn just how sophisticated and comprehensive the science and technology of wastewater treatment is in a modern plant. Yet it's really just clever adaptation of what nature does on its own (albeit accelerated to completion in 24 hours instead of days or weeks and with much higher assurance) and 'polished' using physical methods such as gravity and sand filtration.

"Ninety-nine point nine percent of wastewater is actually clean water. Our job is to get that last 0.1% out" explained Woodland Sewage Treatment Plant Superintendent Mark Howarth who, along with Plant Foreman Joe Morrison, led the two and a half hour tour.

While we waited for the rest of the tour group to arrive, Mr.

Howarth gave us some background information. The Woodland plant is a *tertiary treatment facility* (meaning three levels of cleaning before discharge—macro-physical, biochemical, and micro-physical) and is the sister plant to the Butterworth plant which, together, serve all the domestic, commercial and industrial wastewater processing needs for Morris Township and help serve some surrounding communities. While Woodland is designed to handle 2.3 million gallons per day (MGD), the NJDEP limits them to 2 MGD. On the day of our visit, 1.3 million passed through. Neither plant is designed to receive storm water.

The tour started at the pump station where wastewater first enters the treatment plant and large objects are strained out via coarse bar screens. Pump clogging is a major concern, and whatever objects pass the bar screens (macro-solids) need to be ground up before they hit the pump. "Women's hygiene products are the worst" said Joe Morrison, "they aren't really biodegradable like the packages advertise—at least not in the 24-48 hours it takes to get here, maybe in a private septic they are. Even after shredding, the cotton fibers will re-assemble into clumps that we have to break up. Makes a lot of trouble for us and is the main cause of pump failure and is the largest component in repair costs".

The first stop after *maceration* (cutting up into small particles) is into the concrete anaerobic tanks. Activated sludge (mostly facultative bacteria) is recirculated into the incoming wastewater stream in giant tanks where the fluid (now called "liquor") velocity is carefully maintained at not less than 2 feet per second. "Below that and the solids would drop out of suspension—not what we want to happen", explained Mr. Howarth. "This is the tricky part. Bacteria don't like drastic changes in conditions like what happens during the fall and spring rainy seasons. We've got to keep them at the right concentration to maximize contaminant removal. In the profession we call it the F/M ratio, and it's the key to success."

He explained further that the bacteria release stored phosphorus during the anaerobic phase in order to meet their energy needs (*hydrolysis of polyphosphate to orthophosphate*) and this energy allows them to chow down on the rich nutrients in the fresh influent. Later, in the aerobic stage, with all the energy they got from their meal, they will suck that phosphorus and other organic material right back up, recharging their batteries and going on to reproduce. The excess bacteria not needed for recirculation is later precipitated out, concentrated by various means, and trucked off as thickened sludge to be incinerated to the tune of 24,000 gallons per week.

Bacteria just love to eat and then reproduce (in that order just like other species). The treatment plant creates the necessary conditions to help them do just that and the result is a drastic reduction in the

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*Across the Watershed* is a quarterly publication of the Great Swamp Watershed Association. The Watershed Association is a membership-based non-profit 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

**Editing & Layout:** John Malay

### Contributors:

Ruth Kerkeslager  
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The Science & Technology Committee

# From the Desk of the Executive Director

by Joan G. Fischer



One month ago I walked through the door of the Reynolds house and up the long stair case to my new office. It was clean, calm, and neat—blank computer screen, desk top devoid of files, phone silent and without message light blinking. I was welcomed by our competent staff, our committed, talented trustees, and interested volunteers, friends and supporters of the Watershed. I began to learn the structure of our organization, and the important issues faced by each department and committee. I felt very new, very excited, and a little overwhelmed.

Since that day in September, much has happened. Abbey Woods at Delbarton, quiet since the DEP denied its application in July, has once again become active. The developers have appealed, and are seeking an Administrative Court hearing. We will continue to try to put our strong objections on the record and to protect the integrity of our watershed.

Another matter of concern is the massive Exxon project in Florham Park. New details of the plans for the site have become public, and they raise significant traffic, wetlands, and water quality issues, all of which need to be closely and consistently monitored by the appropriate state agencies, adjoining towns, and environmental groups such as GSWA.

And right in the heart of the Watershed another matter has begun to heat up: potential private development of the superfund site on Britten Road in Chatham Township. We will remain an active player in ensuring that all procedural and substantive requirements for governmental oversight and remediation, as well as public comment and participation, are fulfilled. We will work towards preventing any development which would endanger regional public drinking water resources and area residents, and which would disturb appropriate growth and development patterns for the Township.

Not all of the happenings of the last month are water or land use related. Some are cause for joy rather than alarm. The Reynolds house has a new boiler, hot water (after two years!) and a bay window that actually keeps out the weather. We will be installing our new sign at the base of the driveway, making us a bit easier to locate for first time visitors. The library is organized and is currently filled with boxes of invitations for our 25th Anniversary Gala. Plans for that event are well underway.

Called "A Salute To Silver", the celebration to be held at the Brooklake Country Club, in Florham Park on Friday, November 17, 2006. The keynote speaker and recipient of the Marcellus Hartley Dodge Award will be former New Jersey Governor Thomas Kean.

Governor Kean had a strong environmental record while serving as Governor of New Jersey. He made environmental protection a priority and enacted some of the nation's strictest environmental laws, including the Environmental Cleanup and Responsibility Act (1983) and the Wetlands Protection Act (1987). A life-long conservationist, Governor Kean has worked hard to protect our air, water and open space. As a current resident of Far Hills, he continues to lend his name and support to environmental causes in the state.

The chair of the event will be Watershed Association Trustee and Chair of the Development Committee, Anne Essner. Honorary Co-Chairs will be Nelson and Nancy Schaenen of Madison and Bill and Nancy Conger, formerly of Long Hill Township.

When I think about the last month, I still feel new and excited, but not *quite* so overwhelmed. I have come to know the areas of interest and the strengths of each of our staff, and rely on their experience and expertise. I am continuing to marvel at our trustee's breadth of experience and commitment to share their knowledge with the organization. I am constantly heartened by the support and cooperation of our volunteers and friends in the watershed, formal organizations and interested citizens, all of whom are willing to give of themselves to protect the land and water in our beautiful watershed.

*Joan G. Fischer*



# Event Calendar

## What's Happening In the Great Swamp Watershed

### GSWA Events

Cost \$8 per member \$10 per non-member, children under 5 free.  
All children welcome.

You can now register for events directly online at [www.greatswamp.org](http://www.greatswamp.org) or contact Hazel at [hazele@greatswamp.org](mailto:hazele@greatswamp.org) or 973-5383500 x21 for more info.

### Moonlight Hike

Although we don't guarantee the moonlight, there will be plenty of nature to learn about on a night hike around the watershed. We may hear owls, Crickets 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!

*Friday, October 6, 6 - pm, Cross Estate, Morristown National Historical Park*

*Monday, December 4, 6 - 8 pm, Environmental Education Center, Basking Ridge*

### Fall Wildflower Hunt

Fall flowers allow great looks at late insects and allow a chance to learn some floral geography! Join us for a leisurely walk to spot late blooms. We will concentrate on learning how to identify these wildflowers by their characteristics as well as folk and wildlife uses. Leave with a knowledge of at least ten of the common Fall bloomers.

*Sunday, September 24, 10am-12 noon at the GSWA Conservation Management Area, Harding.*

### Fall Nature Detectives Hike

Fall is a great time to observe animals as they go about their search for food and live their daily lives. It is often easier to look for signs of wildlife than to see the animals themselves. Celebrate the fall by playing Nature Detective as we search for tracks and scats, nibbles and nests of some of the denizens of the swamp. Event will take place rain or shine.

*Saturday, October 21, 10 am - 12 noon. Meet at Pleasant Plains Road, Great Swamp National Wildlife Refuge.*

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Whole Foods

## Think Globally, Act Locally

*[The following email came to us from Frank Stillinger, Board Trustee, Chair of the Science & Technology Committee and long-time volunteer at the Conservation Management Area.]*

One result of the abnormally warm average temperature, coupled with this season's plentiful rainfall, has been the unusually high growth rate of one of the region's problem plants, namely *Multiflora rose*. This invasive is one of the continuing problems that GSWA continually works to minimize at the Conservation Management Area (CMA) in Harding Township.

However it is also a problem elsewhere in the watershed. The temperature and water supply this year have produced six to eight foot growth spurts of barbed shoots produced by this aggressive species, creating a greater-than-usual pruning and removal task for our CMA volunteers. Left unchecked, this and other invasives crowd out attractive and endangered wildflower species on the site, the presence of which we are committed to protect.

*Frank*

# Annual Report

## Letter From The Chairman



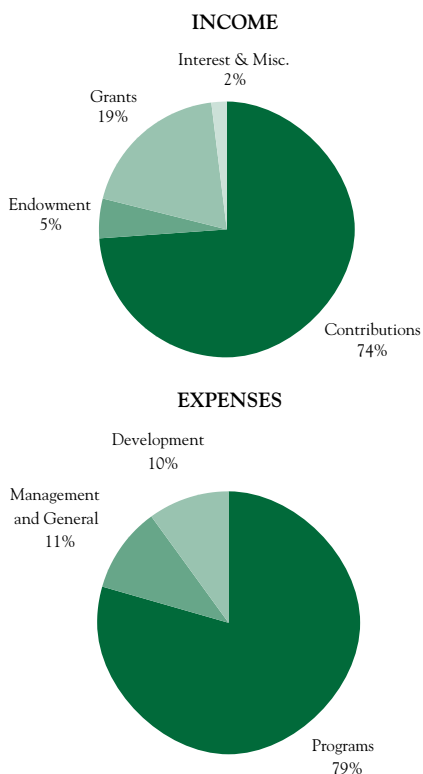
Dan Harding

This has been a year of many significant milestones for the Great Swamp Watershed Association.

Julia Somers was our Executive Director for nearly fifteen years and in many ways she was the heart and soul of the organization. Since the earliest days of stuffing envelopes around kitchen tables Julia provided wise counsel, boundless energy and a passion for protecting and preserving the environment and our quality of life. We all wish Julia the very best with her new job and stimulating challenges at the Highlands Coalition.

Julia's legacy at the Watershed will be more than her notable past environmental accomplishments. With each passing day it is increasingly apparent that she has left behind an organization that has never been stronger, deeper and better equipped to fulfill the mandate from our membership to protect the land and water in our towns.

*continued on next page*



## Statement of Activities For The Fiscal Year Ended June 30, 2006

### INCOME

Contributions	\$ 387,811
Endowment transfer in (4%)	26,794
Grants	
Restricted	25,655
Unrestricted	75,752
Interest Income	7,051
Miscellaneous	2,727

**TOTAL INCOME** 525,790

### EXPENSES

Programs	
Projects	220,151
Local Issues	78,359
Education	41,045
Land Conservation & Restoration	33,582
Total Program Expense	373,138
Management and General	49,815
Development	46,386

**TOTAL EXPENSES** 469,339

**SURPLUS/(DEFICIT) - see \*Note 1** 56,451

### ENDOWMENT ACTIVITY

Market Value 6/30/05	670,646
Contributions (a)	31,716
Transfer to Operating income (4%) (b)	(26,794)
Investment Income & Interest Earned (c)	20,548
Gain/Loss on Investments (d)	32,483
Market Value 6/30/06	728,599

\*Note 1: The surplus is after depreciation. It does not include any endowment related activity, except for the annual 4% transfer. To tie to the audited financial statement's "change in net asset" line, you need to add (a), (b), (c) and (d) above. The audited financials reflect a surplus of \$114,404.

## Letter From the Chairman

*continued from previous page*

Last year I noted a number of new initiatives and specific accomplishments but this year they are too numerous for me to mention here. On behalf of my colleagues on the Board of Trustees, I want to thank all of our supporters, donors, members and hard-working staff for their continuing efforts. Regular readers of this newsletter will know that advocacy accomplishments and land use improvements in this past year have been particularly gratifying, but the challenges ahead are ever more complex and require ever greater resources to fulfill our mission.

It is with great pleasure that we welcome Joan Fischer aboard as our Executive Director. Joan is well-known and widely respected in the New Jersey environmental community. She brings a wealth of land use experience and valuable environmental credentials to the Watershed Association.

I expect that our upcoming 25th anniversary on November 17 will be a spectacular celebration of past accomplishments and testimony to how vital the Great Swamp Watershed will remain in protecting water and land in our towns.

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## Congress Passes “Crossroads of the American Revolution” Bill

The more than 230 battles and skirmishes that took place in New Jersey over the period of the Revolutionary War are at long last being recognized with the designation of “Crossroads of the American Revolution.” This National Historic Area designation was passed by Congress on September 29th, 2006.

The measure also authorizes \$10 million in federal funding for preservation and education at Revolutionary War sites around the state.

A Princeton-based group, *Crossroads of the American Revolution Association*, will manage the area and coordinate projects.

The area will include Morristown National Historical Park, Monmouth Battlefield, Washington's Crossing and Princeton Battlefield state parks. The area includes portions of 14 counties and hundreds of municipalities.

Proceeding over several years, the designation effort was a bipartisan project. Congressmen Rodney Frelinghuysen (R-11th) and Rush Holt (D-12th) initiated the effort in 2000 when they asked the National Park Service to conduct a feasibility study for the state.

The heritage area would be part of the National Park Service with offices in Morristown and Trenton.

Of direct importance to residents in and around the Great Swamp Watershed, the act would help add another layer of protection to the Morristown National Historical Park and adjacent lands targeted by the NPS for possible acquisition and addition to Jockey Hollow.

## 25th Anniversary Event

*continued from page 1*

movement to save the Great Swamp became one of the largest community-action conservation battles ever waged. Most of the money for the campaign came from Mr. Dodge himself, who also purchased a thousand acres he would later donate to the Federal Government as the foundation for the Wildlife Refuge.

The chair of the event will be Watershed Association Trustee and Chair of the Development Committee, Anne Essner. Honorary Co-Chairs will be Nelson and Nancy Schaenen of Madison and Bill and Nancy Conger, formerly of Long Hill Township.

### Annual Meeting & Silent Auction

The evening will begin with the GSWA Annual meeting at 6:00 PM. The festivities commence at 6:30 P.M. with ample hors d'oeuvres, cocktails and a Silent Auction from 6:30 to 8:00 pm. Anne Essner, Chair of the Watershed Association's Development Committee and also Chair of the Event, urges everyone to make plans to attend this very special event and bring your friends. “Everyone had a great time last year and raved about the food and drink, and the mix of friends old and new,” said Essner.

The Silent Auction has become our major fundraiser. According to Ruth Kerkeslager, Development Director, “the Silent Auction raises critical funds for the Association's operating budget, enabling us to continue in our mission to protect drinking water and preserve land to maintain the natural beauty and enhance the livability of your town.”

This year the items up for bid are better than ever.

“We already have lined up some great items for the auction, including vacation homes, golf outings, a day of sailing on Barnagat Bay, sports tickets, and other wonderful and unique items, said Kerkeslager. “We really need you to come out on November 17 to have fun, participate in the Auction, and help the Watershed Association continue its vital mission.”

This year's event has been greatly enhanced promises to be a special evening.

We thank our business and individual sponsors for their support.

For more information about this very special evening, contact Patsy Clew on 973-538-3500 x 18, [pclew@greatswamp.org](mailto:pclew@greatswamp.org).

Tickets are \$125 per person and you can register online right up to the last minute at [www.greatswamp.org](http://www.greatswamp.org).

## Nurturing Nature

*continued from page 2*

amount of ammonia (through the processes of *nitrification* and *denitrification*), phosphorus and certain metals (copper, zinc, iron) in the wastewater. Nitrogen and phosphorus are two major nutrients that can contribute to the overgrowth of algae in streams which, when they eventually decay, result in low dissolved oxygen levels that harm fish, aquatic insects and other oxygen-sensitive aquatic life. Plus decaying stuff *smells*. Thusly, lowering the concentration of organic matter in wastewater is very important before releasing the discharge downstream.



*The Woodland treatment plant lies directly behind the Seaton Hackney Stables and a county park, barely seen behind the tree line. Not visible in this picture is Loantaka Brook.*

After the anaerobic tanks the liquor is pumped to even larger aerobic basins called “OxyTanks”. At the bottom of these tanks is a series of pvc pipes sprouting dinner plate-sized ceramic diffusers every ten feet or so. A massive volume of compressed air is supplied through these diffusers to create millions of bubbles. It’s almost pretty if you forget what you’re actually looking at. One of the tanks was empty for cleaning (the whole plant is designed with redundancy built in). At the bottom was quite a bit of sand and grit which some unlucky soul had to get down into and shovel off to one side for disposal. There were the most beautiful tomato plants growing on top of it. “Tomato seeds don’t break down in the human gut, so they end up here in the sewage stream and eventually down at the bottom of this pit. There are plenty of nutrients to help them grow in the sand, and boy they sure do” Mr. Morrison pointed out.

Once the bugs do their job, it’s time to retire a good portion of them in a clarifier (settling tank). It’s a quiet, peaceful tank with gentle stirring by gigantic wing-like rakes. Solids are coaxed by gravity to settle out. Things that float in water (E.g., grease, plastic bits) are skimmed off the surface. Some of the bugs and solids that settle out will be recirculated into the raw influent as described earlier. The rest will be mixed with polymer and get separated from their water via a device called a gravity belt thickener aka “GraviBelt”. Meanwhile the clear liquid that has overflowed from the top of the clarifier (now called ‘supernatant’) is ready to be polished by sand filtration

and *Total Suspended Solids* (TSS) are lowered below the permit limit. The sand filtration occurs within a building and involves running the supernatant through a fine (~0.5 micron) bed of sand on top of which is a thin film of microorganisms called the “Schmutzdecke” (German for “dirt cover”) that just love to eat the last remaining nutrients in the wastewater. New sand is added periodically to replace that which is lost.

Some wastewater treatment plants will use chlorine to disinfect the water before discharging it. However the Woodland treatment plant does not use sodium hypochlorite for sterilization in its process because they’d just have to take the excess back out with sodium bisulfite. “Why put something in and then have to put a second thing in to neutralize the first thing? We’d rather just sterilize with UVC even though it costs more because of the high electrical requirement”, commented Mr. Morrison. “We only use a small amount of chlorine here for disinfecting the sand filters”.

Using ultraviolet light, the last step before discharge, it’s very important the water is clear or the UVC sterilization won’t be effective since an organism cannot be damaged if the light energy does not reach it. That’s what we get from the sand filtration step—clear water, but not yet sterile water. It’s still potentially loaded with pathogenic and non-pathogenic bugs which will soon meet the Maker.

This plant has designed their UVC system to be 100% redundant, meaning that a number of bulbs could be diminished in strength or even burned out and the other bulbs would still give a sufficiently powerful dose of ~254 nm wavelength light to all the passing bugs in the water to cause them serious trouble. How, exactly? The UVC light causes adjacent thymine molecules in the lifeform’s DNA to dimerize (think ‘kink’), thereby crippling them and preventing them from replicating (even if they are not actually killed outright). Evidently it is quite effective because while the allowable limit is 100 colony forming units (CFU’s) per liter, this facility reports never seeing lab results above 10. Let there be light.

Daily testing for ammonia, nitrates, nitrites, phosphorus and weekly carbonaceous biochemical oxygen demand (CBOD) also confirm the effectiveness of this plant in reducing contaminant levels below—often well below—the DEP permit limits.

The tour ended on a strange, unexpected but happy note. As the tour group looked down the 20 foot deep well to see the effluent at its discharge point, one person asked: “What’s that?”, “Are those fish”? “Yes, they swim upstream and hang out here”, answered Mr. Howarth. “Every so often we have to pull the screen and ‘shoo’ them back downstream”.

*Sources: Mark Howarth and Joe Morrison, “Township of Morris Woodland Sewage Treatment Plant” tour and handout; Wikipedia “Sewage Treatment”; “Green Bay Metropolitan Sewerage District” website gbmsd.org; Living in the Environment: Principles, Connections, and Solutions 12th Edition. G. Tyler Miller, Jr. Brooks/Cole Thompson Learning, publishers, 2002.*

# October Natural Events Highlight the GSWA Conservation Management Area

text and photos by Blaine Rothauser, Science & Technology Committee

1) Fall is the time when asters shine and shine they do on GSWA restoration site. Asters are the tall herbaceous, showy plants in bloom that you see gracing the entrance to the site. When we removed the multiflora rose shrubs some time ago natural succession brought the asters into the here and the now. *New England aster* is my personal favorite, growing tall proud and lavender loud (that rhymes doesn't it). The leaves clasping around the main stem gives this one away. The other more prominent one that seems to pervade the meadow is the *panicked aster*. Where the ironweed left off in September as an insect magnet this species continues the task – look for all the different kinds of bees, wasps, bugs and beetles having their way with this plant.

2) Take a walk to the Silver Brook and sit on the bench for a moment. Take in all the signs of fall consuming the waning summer moments. Poison ivy will take on the colors of the rainbow while neo-



Wood Frog on Toadstool

tropical songbirds feast on their berries. *Chipmunks* and *squirrels* will be taking advantage of nature's bounty, left behind on the forest floor in the form of fruits and nuts. *Dace* (a species of small fish) will be darting hither and fro in the stream: look close – you're sure to catch a glimpse. Songbirds of all varieties will show up if you wait here long enough – usually an hour will do. Look for short dashes of movement weaving here and there from the tree canopy to the shrub-line on the banks. Some of these birds will be fattening up on insects to keep their motors running during long migrations while others are preparing to rough-out winter here in the Jersey state.

3) *Allegheny blackberry* is a small thorny, wispy shrub found in the open, along our ditches and streams. The berries have long been consumed by small mammals and birds but in fall it turns crimson and imparts texture to the trails that lace through our property. This shrub has a neat way of colonizing a piece of terra firma. When the shoots reach a certain height they cane down and touch the ground where they root from the tips. In this fashion, individual plants can form clonal thickets.



Locust Borer on Goldenrod

4) Keep your eyes open if you visit our site late in the day near our brush piles. If you're lucky you might catch a glimpse of my favorite scaly friend, the *milksnake*, slithering from the brush. This snake is a type of constrictor and is a great asset in balancing the scales of nature on our site. With a hefty population of white-footed mice on our restoration site these snakes help curtail their numbers. Truly beautiful, the milksnake is mottled in a patchwork of browns, yellows and orange. These snakes got their name by the inaccurate account that they stole milk from sleeping cows.

The GSWA Conservation Management Area lies at the end of Tiger Lily Lane in Harding Township, immediately off of the Harter Road exit on Rt 287. Totalling over 50 acres, 22 acres are now protected by a deer exclusion fence, containing native species plantings, vernal ponds and trail and boardwalk system..

Work groups and volunteer organizations are always needed to help out. If your company, church, civic or other group is interested, contact Hazel England at [hazele@greatswamp.org](mailto:hazele@greatswamp.org) or at 973-538-3500 x11.

# GSWA To Produce A “User-Friendly” Watershed Map

GSWA is currently working on a watershed map for use by those living, working and playing in and around the watershed. With support monies from PSE&G, Watershed Association staff and volunteers are putting together *a full color map highlighting the watershed and its open spaces.*

The map, which should be available late fall, will offer:

- contact information for many points of interest around the watershed
- highlight those areas of open space already preserved,
- and bring to light where the tributaries of the Passaic river flow through the watershed.

Also included will be river access points, a driving tour route and bicycle route information. It is hoped that the map, which will be distributed *free*, will help educate residents about the many resources, both natural and cultural within Great Swamp.

Watch this space for more information about getting your very own copy!!

## Donations

Mr. and Mrs. Aaron Rich in Memory of Julia Somers' mother.

## Mark Your Calendar! Our 25th Anniversary Event is on November 17th!

Register online at [www.greatswamp.org](http://www.greatswamp.org)



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