

WORKING FOR WETLANDS



NEWSLETTER OF THE DELAWARE
ADOPT-A-WETLAND (AAW) PROGRAM

Issue #10
February 2005

Winter Wetland Wonders

Heading out on a bright, crisp, winter morning to monitor a wetland site recently, I hesitated for a moment. Thoughts of wet soils, brisk winds, cold hands and icy boots tried to creep into my consciousness--- wouldn't it be nicer to snuggle into a fireside chair this weekend morning than to go tramping over 29 acres of forested wetlands? Remembering that our monitoring group had all aligned their schedules to be able to go on this morning, I quickly warmed the car and got on the road. We all arrived at the same time and with much excitement and good nature, donned multi-layers of warm clothes, gloves and boots and gathered the GPS equipment, camera, shovels and nippers for a full morning of "adventure", and adventure it was ... a wonderful morning of being awed by the beauty and function of another of Delaware's wetlands.

Winter is one of the best times to visit and monitor wetland sites. The leaves have fallen, the temperature can be wonderfully comfortable on a warm day, the air is clear and at this time of year it is so much easier to see evidences of birds, wildlife, wintering plants and even observing and understanding the hydrology that makes these wet places so valuable.

Monitoring of wetlands has many facets and adopters can choose whichever ones are best suited to their group's abilities and interests. Delaware Adopt-A-Wetland has developed loan trunks for water quality testing, macroinvertebrate monitoring, wildlife watching, amphibian and reptile monitoring and plants/invasive monitoring, and these loan trunks are available for our adopters to use anytime during the year.

This March we will be featuring our new loan trunks and instruction on how to use them during our county workshops---an opportunity for adopters to come together, to meet with other adopters, to learn about the latest wetland stewardship techniques and also to take a couple of hours to relax, share experiences and get to know each other.

We can be very proud of the fact that as each AAW group takes care of its own wetland site. We are collectively making a significant difference for 70 of Delaware's natural resource treasures.

Marlene Mervine, Program Coordinator

Delaware Adopt-A-Wetland Spring Forums

DE AAW is offering something new for Spring 2005. Instead of the statewide workshop that we usually hold during May to celebrate National Wetlands Month, we are going to focus attention on holding county workshops so that driving distances are reduced for our adopters who live many miles away. These programs are free and we are very anxious to have as many of you attend as possible. The format will be geared toward teaching adopters how to use the special kits we developed for monitoring different aspects of your wetland. Being able to borrow one (or more) of these trunks with all of the equipment needed to begin monitoring the differing components of wetlands and by giving you information that will help maximize the enjoyment of your wetland and should make for an interesting program and much improved use of our sites. As usual, these will be fun times of learning about our natural environment (with goodies too!!!!). Complete enclosed registration flyer insert or please call or e-mail us ASAP with your registration so we can plan for numbers of participants, (302) 653-2882 ext. #109, e-mail: marlene.mervine@state.de.us The workshops will be held at the following locations and times:

Sussex County Rehoboth Beach Public Library Tuesday, March 15th, 6-8 PM

New Castle & Kent Counties ARE Center, Smyrna Saturday, March 19th, 1-4 PM

Spotlight on Adoption Activities

Adopter: Kelli Martin and Family at Blackiston Wildlife Area

My daughter and I adopted a wetland in 1996 as part of her 4-H project in Conservation. We spent time picking up trash there and she kept a log of the wildlife species using the area. We visited several times each year just to enjoy the area. Now she is a junior at the University of DE and I am a 4-H club leader. Our adopted wetland at Blackiston Wildlife Area has become an environmental education lab for my 4-Hers. It is a great site for several reasons: acres of surrounding fields and woodlands, lots of wildlife and waterfowl, and the fact that it is a constructed wetland. This gives us lots to talk about.



This past November, our group visited this wetland and we used some of the loan kits for the first time. The kids loved them! Everyone took a different water test kit and ran the procedure described in the easy directions. We then recorded that data. However, the *Mac Pac* was the big hit. Splashing through the shallows, dipping up little critters, and cupping them in their hands – what more could kids want? The identification cards were great. The 4-Hers really enjoyed figuring out what they had in their macro holding cells (also known as ice cube trays). The resources offered by the kits were super!

That day, we found a beaver dam and large wood chips from the tree felling activities. Everyone took a chip home as a souvenir of the trip. We are also lucky that Wayne Lehman, a wildlife biologist and manager of the area, has his daughter in my club. Wayne came along and explained some of the wildlife management practices on the property and let us clean-out woodduck boxes and check for screech owls that sometimes use the boxes. The day was a great success and now my 4-Hers are looking forward to making another trip in the spring to compare water quality data and get an idea of the seasonal changes in a wetland. We also want to try out some of the other kits, maybe Herps this time! When you spark an interest in a child, it may last a lifetime. What better place to introduce young people to conservation and environmental awareness than in a wetland?

Provided by Cathy Martin

Adopter: Rich Field and Kathie Hepler on Collins Pond

Robert Frost was a close observer of nature, and his gift was to see the greater meaning of life in the tiniest things. I often think of this poem when we leave busy Route 404 and turn onto the road that leads into the woods and over the wetlands that surround our house here in Delaware.

We cross the culvert, stop to open the gate and look around. The fallen tree still juts out of the water, and if it's a sunny day, the turtles sit there enjoying the warmth. Sometimes we frighten the black-crowned night herons, and they squawk in alarm and flap away. Once we startled a duck family. The female gazed at us over her shoulder as she quickly herded her little ones out of danger. The trees are just beginning to leaf out—gold and bright green. If we peer into the pond at water's edge we might see miniscule fish and maybe some tadpoles.



If the evening is mild, we leave the windows open to hear the spring peepers. Much has changed in the fifteen years that we have been coming here. The house now has a lovely screened porch and the dock has been replaced. All the little kids are grown and married—maybe next there will be grandchildren. But spring still arrives the same way, with ducks and turtles, fish and tadpoles, green and gold.

*Nature's first green is gold,
Her hardest hue to hold.
Her early leaf's a flower,
but only so an hour.
So leaf subsides to leaf.
So Eden sank to grief.
So dawn goes down to day.
Nothing gold can stay.*

By Robert Frost

Provided by Kathie Hepler

Spotlight on Adoption Activities (Continued)

New Adopter: Silver Lake Center's "Silver Lake Students Service Surroundings"

Recently, the students and staff of Silver Lake Center pledged to conserve the natural resources and maintain the wetland area located on the premises of 493 East Main Street in Middletown. These dedicated individuals have been involved in numerous AAW activities. Some of the endeavors entail water/soil tests, brochure development, phragmites control, as well as recreational pursuits.

Monthly information regarding water color, clarity, temperature and pH are collected and shared with students around the United States on the website entitled: "Take a Dip: The water in Our Lives." Along with water testing students also analyzed the soil to note the amounts of nitrates and phosphates contained in the samples. This data is shared with the Silver Lake community too.

Throughout the summer months students researched specifics pertaining to the benefits wetlands provide and their importance to our neighborhood. They also created an inventory of the wildlife found here and developed brochures for visitors to peruse. Guests may utilize these pamphlets as they travel through our wetland terrain. Currently students are working on a wildflower scavenger hunt for use during our spring and summer sessions. Students also carried out phragmites removal during the spring and summer months to prevent these invasive plants from destroying other native plant life.



However, the most popular use for our wetland concerns recreation and wildlife watching. Students and staff spend hours honing their fishing (catch and release) skills, as well as searching for various forms flora and fauna. In short, it is obvious that our site has great educational, recreational and aesthetic values. We hope to continue our efforts to preserve this habitat for years to come. If you are ever in the area stop and enjoy some of the many uses our wetland provides.

Provided by Kathleen Devine

Pending Adoption: Lions on the Mason Dixon

Hulbert Footner's "Rivers Of The Eastern Shore" describes the Chester and the Choptank Rivers as two of the more important bodies of water which drain into the Chesapeake Bay from the DelMarVa Peninsula. In fact there are 15 different and diverse water flows, about 39 percent of Delaware's western and southern lands, originating in Delaware, that feed into the Chesapeake, creating a nurturing home to 91 percent of our state's rare plants.

The Marydel Lions Club members understand and appreciate the critical dynamics of knowing that the quality of the wetlands and streams in these watersheds will determine the quality of aquatic life, outdoor activities, and recreation that is associated with a major portion of the Chesapeake Bay. At their December, 2004 meeting, several members rose to the challenge posed by Terry Higgins to consider joining the Adopt-A-Wetland Program and to begin to monitor selected stream sites in the Chester and Choptank watersheds. Further discussion led to the club's decision to formally sponsor and support those club individuals who were willing to serve as volunteers for this project.

As of this writing, two members, Patti and Roland Boggs, have successfully completed training in the importance and role of wetlands and in the protocols for the testing of specific water quality parameters. The role of consistent testing and record keeping was emphasized. Two more members of this very small but highly active Lions Club are in the process of being trained along with the determination of site selection. Terry Higgins assigned as the club's Environmental Chair, will coordinate and support the efforts of these new Adopt-A-Wetland volunteers.

Provided by Terry Higgins, AAW Kent County Coordinator

Adopter Activity Survey Highlights:

Responses to the annual survey of adopting group activities are trickling in, and they once again point to the impressive amount and variety of effort adopters across the state are bringing to their wetlands work. First and foremost, thanks for the difference your on-the-ground efforts are making, and secondly, for taking the time and trouble to respond. And if you're among those who haven't completed/returned the survey yet, that's OK – there's still time, and your input is much needed - please consider setting aside the half-hour or so it takes to do so. If you lost your survey copy, you can request an e-version of it by at: gary.kreamer@state.de.us or a hard copy, by calling Marlene at (302) 653-2882 x109.

We realize this is asking ever-busy people to add one more task to their already overflowing plates, but we cannot over-emphasize how valuable this information is to AAW's future. Because AAW - and all the workshops, resources, kits, this newsletter, and other areas of support we offer - depend greatly on grant monies, whenever we apply for or renew those grants there is always the question of how much what we do and propose to do is meeting a need and making a difference. These surveys are our best, if not only, way of showing that. And please don't be put off by feeling that the numbers you have to report are insignificant! The feedback from every adopting group is helpful, and all efforts, no matter how small they may seem, contribute meaningfully to the cause.

Survey Component	2003	2004
groups surveyed	56	60
groups responding	32	23
rate of response	57%	38%
site visits (all groups)	872	252
average visits per group	27.3	11.0
hours spent (all groups)	2196	578
avg. hours/group (year)	68.6	25.1
avg. hours/visit per group	2.5	2.3
total participants (all/year)	7695	3442
avg. participants per visit	8.8	13.7
visits involving clean-ups	402	99
planting project visits	15	4
wildlife project visits	103	28
water testing visits	49	60
biological survey visits	145	38
recreational visits	335	24
educational visits	466	36
total activities all visits	1515	289

With that in mind, let's take a quick look at what the surveys are telling us. Firstly, over the last two years, groups are visiting their adopted sites more often, spending more time there and doing more activities than ever previously recorded. This is especially true of the 2003 data, but as more responses come in for 2004, we anticipate a similar level of activity. Secondly, the variety of activities - especially those that go beyond clean-ups to more involved habitat restoration, monitoring, education, etc. – is likewise increasing, and with it the impacts your collective efforts are having on enhancing those wetland habitats in your care. We applaud each of you for all you do, and wish you a 2005 full of the rewards that such efforts deserve.

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2006 Opening Remarks: Three R's of Wetlands

Resplendence. Glittering ice crystals and snow cling to every small twig in this pristine southern Delaware swamp. On this frigid, but brilliant, wintry morning I am absolutely awed with the resplendence of these places. Each view, from the smallest ice-coated plant peeking through the snowy leaves to the still waters that will soon be full of spring's earliest calling amphibians, adds its special mark. Winter's magic in the fairyland of snow and ice is just one of the treasured vistas these hallowed wet places imprint upon us. Spring brings flurries of awakening life and green beauty. Summer wetlands explode with growth and activity providing the bounty for wildlife of many species to thrive and multiply. The colors of fall paint our wetlands with singular beauty, transforming summer's abundance into a smorgasbord for migrating birds. We come full circle again in winter. The message embedded in this ongoing cycle is clear - wetlands matter! Their resplendence has supported and enriched life on this planet for eons.

Relevance. Our wetlands are relevant to nearly every aspect of our lives. In Delaware, we all live within a mile or so from some sort of wetland - tidal coastal or freshwater, vernal or swamp, constructed or natural. They provide us with cleaner water via their filtering qualities, safer shores because of their erosion and flood control functions, healthier habitats for wildlife because of their abundance, sources of food and materials that make our lives easier, removal of nutrients and toxins from our environment, and significant economic benefits for Delaware - all of these contributing to our health and well being. We can probably all remember taking boat rides with our families on a small stream or pond, watching beautiful sunsets across a wetland area, enjoying a favorite fishing hole or picnic spot where we could watch wildlife and birds. In these and other ways, wetlands are relevant to our lives!

Restoration. A word with double meaning when it comes to Delaware wetlands. Anyone who spends time in wetlands - whether it be canoeing, hiking, wildlife watching, or just plain sitting - comes to know the restorative and renewing qualities of spirit that arise from such experiences. If you haven't tried it lately, make it a priority on your 2006 'to do' list! And these days, you can restore your sense of making a positive impact on the environment by restoration of a different kind - referring to the goal - underway on numerous fronts and through the efforts of many dedicated people and agencies in Delaware - to restore those wetland places that had been lost or damaged due to past neglect. Ordinary citizens contribute much to such projects and you can too.

Resplendence, Relevance and Restoration --- three of the reasons that the Delaware Adopt-A-Wetland Program (DE AAW) is working so hard to preserve the gifts of Delaware's wetlands for the future. In this newsletter issue and in an article entitled "Wetland Warriors" by Annie S. Jacobs in the most recent issue (fall 2005) of Outdoor Delaware magazine, you can learn what some of our adopters are doing to improve and care for their adopted sites all over the state. These are just a few examples, but they illustrate well how everyday people are making a real difference for Delaware wetlands. And if you'd like to get involved or learn more, consider joining us for a special edition of our annual AAW workshop - with a "Watching Wildlife in Wetlands" focus - on the weekend of April 1-2. A registration form is enclosed with this newsletter. A great place to enrich your knowledge of the 3 R's of wetlands!

By Marlene Mervine, Program Coordinator



Resplendence, Relevance and Restoration

Adoption Group: The Woods on Herring Creek Homeowners Association

In February 2004, The Woods on Herring Creek (WOHC) community adopted one of its storm water drainage ponds, a two acre pond, which was dug out in 1976. Good planning or good fortune smiled on the pond, blessing it with features that make it special. The pond butts up against the protected Delaware Wild Lands Angola Preserve and within a stone's throw of the pond are woods of loblolly pine, stout stands of phragmites, and the low wetland grasses bordering Herring Creek. In addition, the pond has a drainage ditch which carries tidal water from Rehoboth Bay to Herring Creek through a large diameter pipe and into the pond. When water levels in the ditch are high from periods of heavy rain, very high tides and northeasters, water from the creek sometimes gushes through the large pipe and into the pond. Occasionally, when the pond water rises from heavy rains, the flow is from the pond into the Creek. These features have allowed the pond to become a treasure trove of aquatic plants, fish and wildlife.

Aquatic grasses are rooted throughout the floor of the pond, providing spawning habitat and helping soak up a lot of nutrients. Minnows, crabs, pollywogs and frogs inhabit the pond in fair numbers. White perch and eel also find homes in its brackish water. Teeming schools of small fish ranging from 1-1½ inches flit through the shallow waters and ripple the surface, darting up and back so quickly it's hard to see them. Even in winter as the sun warms the shallows, these little critters are active. With help from the AAW program we hope to put a name to these fish soon.

As spring brings in warmer air and water temperatures, wildlife is drawn to the pond. Several years ago, an otter hung around for a while feeding on crabs and, on one occasion, was seen chomping on an eel. Muskrat also stream through occasionally for a bite to eat. White egret and blue heron can frequently be seen prowling the shallows for tasty tidbits. Canada geese, mallards, and other ducks also enjoy the pond. For the last three years, a pair of Canada geese have raised their brood at the pond staying with them until the youngsters were able to fly. In the early morning, at twilight and at night, deer venture out from the woods to feed in the grassy field by the pond.

The WOHC Grounds Committee maintains the banks of the pond, clearing fallen trees, branches, leaves, and other debris from the perimeter and trimming trees and bushes scattered along the banks. They also set up several purple martin houses on poles near the pond; last spring and summer, for the first time, the martins decided to nest there.

In recent years, our group has been testing the pond water quality using the Adopt-A-Wetland water testing kit. Last summer, the pond had a particularly heavy algae bloom. We submitted a container of pond water with the algae and strands of grasses woven into it for testing at the Aquatic Resources Education Center. Tests revealed that the algae was a blue-green type. It was shading the underwater grasses from sunlight and killing them off, causing a deterioration of water quality. AAW personnel advised us to attempt to remove the algae as it begins to grow and move it far enough away from the pond so that runoff from rains would not redeposit nutrients back into the pond. We are considering throw rakes or tarps with floatation devices onto which algae could be shoveled and then dragged into an adjacent field as possible removal measures. It seems like a daunting task, but nothing ventured nothing gained. We enjoy our pond year round and a walk past the pond is always a refreshing experience, even in the heat of summer, if you can believe that.

Submitted by Vince Kane

Adoption Group: James C. McCulley Environmental Consultants (JCM ECI)

The employees of James C. McCulley Environmental consultants (JCM ECI) are proud to announce their recent wetland adoption. The wetland, known as Osborne, was created as mitigation for the loss of wetlands associated with State Route 1 construction. Many people are already somewhat familiar with this wetland, which raised curiosity when several hundred tree stumps suddenly appeared along the west side of SR1. From a distance most people might not be aware that this created wetland is composed of a series of open water ponds interspersed with areas of emergent wetlands and upland berms and was designed to eventually become a forested wetland with Delmarva Bay type open water areas.

This past year several employees of JCM ECI took part in wildlife watching and plant identification. Numerous avian species were observed such as; Great Blue and Green-backed Herons, Great Egrets, Red-tailed Hawks, Northern Harriers, Tree Swallows, Mallards, Green-wing Teals, Eastern Bluebirds, and Belted Kingfishers just to name a few! Amphibian and reptile species observed included Green Frogs, Bullfrogs, Cricket Frogs, Chorus Frogs, Snapping Turtles, Red-bellied Turtles and Painted Turtles. A unique feature of the Osborne site is that 99 percent of the vegetation represents native species that have regenerated naturally including plants such as Broadleaf Cattail, Soft Rush, Spike Rush, Smartweed, Shallow Sedge and Pickerel Weed. We planted only button bush plants.

(Article continues on next page)

(Continuation of JCM ECI Adoption Group)

In a time of inevitable growth and population increase, JCM ECI recognizes the importance of ensuring that wetland mitigation sites are successful and productive. In the years to come, the employees of JCM ECI look forward to learning more about Osborne and participating in activities such as monitoring macroinvertebrates, seasonal water testing, monitoring woody species and controlling invasive species.

JCM ECI, an environmental consulting firm with offices in Newark, Dover and Georgetown, provides services such as wetland delineations, environmental audits, construction review, rare and endangered species inventories, habitat assessments, wetland violation issues and wetland mitigations. To contact JCM ECI, please call: 302-737-9335 (Newark) or 302-734-7160 (Dover).



Submitted by Shaina M. Phillips, Environmental Scientist

Highlight on New Adoption Group: Nando's Garden

Two years ago, my husband John and I bought 1.5 acres of Hockessin, Delaware, farmland bordered by a gentle stream tumbling through impenetrable thickets of needle sharp multiflora rose, porcelain berry vines, and blankets of oriental bitter sweet.

I, the unknowing, led John, the unwilling, in a quest to recreate a Delaware native woodland-water wonderland for wildlife, including those four-legged stomachs we call deer, in the impenetrable thicket bordered by the gentle stream. Tall oaks and poplars were draped in vines that would do a Tarzan movie proud. Smaller cherries, dogwoods, walnuts, sassafras and black willows were twisted by mats of vines and brambles, buried so deeply by them that we were like sculptors chipping off rock to reveal the treasure within.

After a year of hacking at the invasives by ourselves on weekends, we brought in professional help with power tools to clear the nastiest and woodiest ones. Soon we found that the impenetrable thickets were taming a raging, scouring, monster of a stream disguised as a mild-mannered brook. Each heavy rain turned the stream into a torrent suitable for white-water kayaking, probably the result of heavy upstream development and lack of runoff control. So replanting with native species to stabilize the stream bank and neighboring bog was imperative.



In the next two years we planted more than 2000 trees and shrubs in four different microenvironments in the yard: 1) higher grazing land from the old farm, 2) a steep slope from the grazing land to 3) a freshwater stream edge with several springs (the bog); and 4) a swale between the sloped grazing land and the bog.

In the bog we introduced Red, White, Willow, Pin and Swamp Oaks, River and Bog Birches, Button bushes, Red Chokeberry, Tulip Poplars, Silver and Red Maples, Winterberry, Elderberry, Arrowwood and Black Haw viburnum, Green Ash, Hackberry, Persimmon, Itea, Sweet Bay Magnolia, Atlantic White Cedar, Red Twig, Native, Silky, and Grey Dogwood, Silky Willow, Clethera, Fringe Tree, Common Nine Bark — and many more herbaceous plants.

Wow! It was a load of work, but now the birds have berries and the butterflies have nectar and caterpillar host plants all year. Last summer we enjoyed a bumper crop of winged friends of all sizes and shapes, including the magnificent Monarch Butterfly pictured here in two of its stages. Of course the turtles, frogs, brown snakes, bees, wasps, bugs, spiders, and fish are happy campers too.

One fringe benefit of a healthy bog is a lack of mosquitoes. Without our woodland creatures, including a family of barn swallows living under the eaves of the house, we would need pesticides, bug zappers, and other nasty devices to control the blood suckers. But few ever escape our bog critters — another reward for providing good habitat.

Submitted by: Mary Ann Capria, Nando's Garden

"Where City Meets Nature"

RUSSELL W. PETERSON URBAN WILDLIFE REFUGE

Nature has its own timetable. It takes a lot of time for plants to grow to maturity. Likewise, it takes time for dreams to become realities. It has been six years since the Advisory Committee for the Russell W. Peterson Urban Wildlife Refuge first met to discuss plans for restoring the marsh area near Frawley Stadium (just south of Wilmington) and building a nature center to introduce visitors to the joys of watching the wildlife that calls the wetlands there home. Progress has been slow, but like all good things, the completed wildlife refuge will be well worth waiting for.



It quickly became evident that there was a lot of work involved in getting this idea to take root, but over the last few years, great strides have been made. We have purchased or obtained easements for all the necessary land, obtained a NAWCC grant to restore portions of the marsh, and completed the actual work of wetlands restoration and tide stabilization. You can see the results of the marsh work as you drive north along I-95, right before you get to the Shipyard Shops and Frawley Stadium. The objectives of the State Division of Fish & Wildlife were to improve water quality and restore tidal exchange, control invasive species, improve fish habitat and passage, enhance the general habitat, provide areas for recreation and education and ensure mosquito control. The newly restored site is responding well, but it was hardly an easy task. Working in the ice, snow and mud provided a huge challenge, as was preparing the site to support the heavy equipment needed. It will be a while before the marsh is fully restored, but today it is a lot greener and signs of wildlife use are increasing. We are already seeing carp, crayfish, egrets, herons and foxes, for instance. It's very exciting.

A landscaping firm is working on the overall plan for the nature center, which will feature a boardwalk trail system through the marsh with eco-stations along the way so visitors can stop and observe wildlife. A picnic pavilion, canoe/water taxi landing and lots of interpretive signs are also envisioned. The net result will be a facility that will be both fun and interesting to visit.

Selection of an architect for the nature center has been scheduled and work on that facility will begin in earnest in 2006. It's not easy, but we are learning to be patient. Each step completed brings us nearer to making our dream a reality. We want the marsh itself to be the main attraction, and that phase of the project is already finished. It will only be a matter of time before everything else falls into place. Next time we report on the Russell W. Peterson Urban Wildlife Refuge, we hope to be able to invite you to come and see for yourself what a wonderful place it is to celebrate wetlands.

Submitted by Nancy Parker, Artesian Water

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2007 Opening Remarks: *Connectedness*

On a crystal moonlit fall evening several years ago, I was privileged to accompany a canoeing expedition into a section of expansive brackish-water marsh along the lower Nanticoke River. The location, just beyond Delaware's southwestern border, is one of our state's connections to the Chesapeake Bay, receiving all the waters from Delaware's largest watershed and channeling those waters, through miles of beautiful, historic, rich and incredibly important natural lands, on to the Chesapeake.

The 12 or so canoes, like so many tiny, just visible blips on the dark expanse of softly moonlit river, entered into the "other-world" of the marsh amid wonderful night sounds---the sudden and awesome sound of thousands of wings taking flight from the marsh reeds all around us as roosting birds were startled by our presence; the softly dripping water from our paddles and bumping sounds of our small boats nudging their way past jutting logs as we navigated the tight marsh channels; the overwhelming silence and darkness as we entered the water paths through the forest canopy where, occasionally, the silence was punctuated by the calls of birds or splash of frogs; the shafts of moonlight breaking through the branches overhead creating a tapestry of shadow and light; the introspection in all of us as we contemplated our co-existence with these important, beautiful, irreplaceable parts of our world, and the happy sounds of the "boat people" as we left the wooded canopy to re-enter the open river and welcoming harbor---connections between people and a spectacular riverine wetland---connections that inspire spirits to seriously consider the necessity of finding ways of permanently protecting these biologically rich and disappearing wet places!

Connectedness is one of those words that make you stop and think. Experiencing the connections of life---family, friends, work and peace within are the elements that make us successful beings. Science and nature teach us that in life **everything is connected to everything!** When we adversely impact any portion of nature, we impact the functions that are connected to it, and those interconnections may well be the ones that will have present and future repercussions upon our health and welfare.

The Delaware Adopt-A-Wetland Program (DE AAW) strives to care for Delaware's wetlands so that their connections to the rest of our state's natural heritage will be protected. A former DE AAW Coordinator, Donald Dean has noted, "I'm coming to understand that all our wetlands and bodies of water are inter-related and that all activities around wetlands, by agriculture, industry or even individuals who live nearby, contribute to the health of Delaware's water quality". Another former DE AAW Coordinator, Lisa Jo Frech sums it up beautifully, "AAW brings people of all ages together to work for the benefit of everyone. You learn about the very tangible benefits of wetlands and the connectedness of our backyards to our neighborhood and of our neighborhood to other neighborhoods via water, vegetation and wildlife". Recognizing and protecting natural connections is one of the keys to our future well being.

Won't you join the Delaware Adopt-A-Wetland program in protecting Delaware's wetlands and their connections?

By Marlene Mervine, Program Coordinator



Adoption Group: Indian River School District Outdoor Education Center at Ingram Pond

Our district is named for the Indian River watershed that it straddles: streams, several mill ponds, the river estuary, inland bay and the ocean. Taking advantage of this abundance of wetlands, the Indian River School District established an outdoor educational program located on 180 acres of fields and forest that border the state-owned Ingram Pond in 1998.

We utilize the diversified natural resources found at the Ingram Pond site as much as possible, while providing opportunities for students to extend and refine their class work. Younger children use the field and woods in several activities, 7th graders evaluate water quality as they canoe the pond and 8th graders wade in the stream studying population dynamics. Currently, each year over 5000 students either visit the outdoor education center at the pond or in colder weather, receive instruction by Indian River staff at their school.

At each grade level, the activities are age appropriate and connected to the state curriculum. Along the way, the center has received the state's "Superstar" award and recognition on the national level.

This year marks the first eighth graders to have been "touched" by the annual Ingram Pond experience since they started school. A hypothetical eighth grader should have nine days worth of educational memories that include a visit from our traveling hedgehog, dissecting an owl pellet, canoeing and numerous field studies to better understand our wetlands and the life associated with it. In addition, the luckier students could have had two weeks of summer camps!

**By Doug McIlvaine, Teacher
at IRSD Outdoor Education
Center**

In November, 2002 these 8th graders collected Asian clams, an invasive species. They also measured stream flow as a factor that affects the clams and the muskrats that eat them. These kids are high school graduates now. Let's hope they practice good stewardship of our wetlands. I think they probably will!

**Adoption Group: Rich Field and Kathie Hepler****2006 Workshop Highlights**

April 1, 2006 was a cold and sunny day. Spring was on the way, but it hadn't arrived just yet. We Adopters of Wetlands are a hardy bunch, however, and so we gathered in the Aquatic Resources Education Center in Smyrna, Delaware, to become better stewards of our land.

We learned how to identify some of the creatures that live in our wetlands. We heard about the many programs that strive to preserve the beauty around us. We strolled out into the marshes, mucked around in the wetlands, listened to spring peepers, enjoyed fine music and participated in some hands-on learning. Some of us even managed to make a simple duck house, determined to attract a few more ducks to our own wetlands.

So we look forward to new experiences and challenges in 2007 as we continue our commitment to Delaware's wetlands.



By Kathie Hepler

Immediately after our 2006 workshop, Rich (shown here doing the hard work) and Kathie (the accomplished photographer) installed the new duck house in their beautiful Atlantic White Cedar wetland.

The Adopt-A-Wetland Program**Welcomes New Adopters for 2006:**

- ◆ Apple Road Neighbors & Friends—Newark
- ◆ Case-Willis Associates—Dover
- ◆ Phillis Wheatley Middle School—Bridgeville
- ◆ Delaware Native Plant Society—Dover
- ◆ 4-H Environmental Science Club—Newark
- ◆ Bill and RoseAnn Battista—Hartly
- ◆ The Marasco Family—Camden-Wyoming
- ◆ BlueCoast Seafood Grill—Bethany Beach

New Adopter Group: Case-Willis Associates

Our family has owned a small farm in, Kent County, for 70 years. My husband, having lived on the farm property all of his life, has many fond memories of the woods and freshwater wetlands. Fishing, hunting and exploring the wooded wetland areas has been a favorite pastime in years past. We recently built a new home on a parcel of this land. We are becoming acquainted with our new backyard, surrounded by the fauna and tall hardwood trees that gently slope to the Puncheon Run Stream and the St. Jones River edge. Everyday our backyard is a place of nature activity. There are many species of birds that visit us and feed. Deer, squirrels, a red fox (with her kits), a coyote, red tailed hawks and owls are viewed from our backyard. We have had the privilege of viewing bald eagles roost in the trees behind our house as they await a meal from the St. Jones River. Witnessing nature unfold before our eyes each day has become an exciting pastime for us during our retirement.



Curious and desiring more information about the wetland surrounding us, we began searching for wetland environment assistance. We read about the Adopt-a-Wetland Workshop and attended this meeting in April 2006. After we received lots of information from the workshop we became interested and decided to become adopters, becoming stewards of our backyard wetland area; Puncheon Run Stream and St. Jones River edge. This is a family partnership and includes our children and grandchildren. Workdays are scheduled periodically for site clean-ups with the family participating. We have built and placed a wood duck nesting box along the stream and are in the process of building more nesting boxes. A loan trunk, developed for monitoring different aspects of a wetland, was loaned to us at the workshop we attended and this was very helpful. It told us how to identify and monitor the species living on our wetland. This kit has taught us how to monitor frogs, turtles, snakes, other "creatures", and the water quality. Spring will soon arrive and we may witness new surprises as life awakens in the beauty in these wetlands.

By Glenda Case

Adoption Group: Marydel Lions Club

On a sunny Saturday last July 8, 2006 Marydel-area youth, 11 members of the Marydel Lions Club, 15 area volunteers, and Marlene Mervine, Delaware's Adopt-A-Wetland (AAW) coordinator, gathered at Mud Mill Pond in western Kent County for a day of exciting activities. The Lions Club hosted their first Youth Fishing Derby for youngsters with expert fishing advice and mentoring, gift bags filled with a variety of conservation items and wetland information, plus an "all you can eat" country luncheon. A number of local, governmental, and civic organizations were represented with displays and hands-on activities. The high point of the event was the formal dedication of the Marydel Lions Club's Adopt-A-Wetland site. All of the youth participating caught fish and each received a prize for their successful efforts.

Mud Mill Pond, historically known as Medford's Mill Pond, is formed from the waters of the Culbreth Marsh Ditch (in Delaware) and the combined waters of the Tappahanna Ditch (in Delaware) and the Beaver Harrington Ditch (in Maryland). The original dam was built to provide water power for various activities including the operation of Medford's Mill which is still standing at the western edge of the dam. The pond encompasses approximately 60 surface acres of water and is generally shallow with a maximum depth near the dam of about 7 feet.

The watershed that supports the pond covers a relatively large drainage area in Delaware's western Kent County and portions of Maryland's southeastern Queen Anne's and northeastern Caroline Counties. The pond's shallow depth provides a habitat for several species of aquatic vegetation which in turn supports a diverse population of aquatic organisms. The brownish "mud" colored water of the pond is due in part to the natural tannic acids that drain from the vitally important, extensive wetlands that are found in the headwater forests of the pond's watershed.

Following this very successful first "AAW/Kids Fishing Derby" Day at the Mud Mill Pond Recreational Area, the site continues to be monitored and cared for and the Marydel Lions are exploring an expansion of activities and AAW monitoring opportunities there.



After completion and subsequent analysis of this event, the club's members have decided to make it an annual affair with expanded emphasis on community service and increased exposure for the DE AAW Program. The date for the 2007 "AAW/Kids Fishing Derby" Day has been set for July 7 and a planning committee is working on preparations for the event. Please call Terry Higgins at 1-302-492-3354 if you are interested in participating and/or attending this year's Derby!

By Terry Higgins, Adopt-A-Wetland, Kent County Coordinator & Professor Emeritus of Environmental Sciences, Wesley College

2007 Adopt-A-Wetland Annual Workshop Update

You may have been wondering about Adopt-A-Wetland's 2007 annual workshop, since we usually hold that event during (or near to) National Wetland's Month in May every year. Well, this year we have decided to try a different direction. Those of you who have joined us in prior years know that our annual workshops are always lively and informative, as you can tell from Rich Field and Kathie Hepler's article on the follow-up to last year's two-day spring workshop at Mallard Lodge. We held an opening herps identification session with Mick McLaughlin and Diana Koch facilitating, two field trips, several instructional sessions, a wildlife project to "make and take" and great after-dinner music with Bill McAvoy and Annie Jacobs-----an all around good learning and good times weekend. This year we have decided to hold our annual workshop in a new timeframe. It will be sometime this fall, giving us an opportunity to learn about and observe our wetlands at another time of year. We will let you in on all of the details and fun in the next few months, **so please make sure that we have your e-mail addresses!!**

Aquatic Resources Education Center's boardwalk during the April 2006 Workshop.

Photo by Kathie Hepler



SURVEY UPDATE

Important Reminder to Adopter Groups regarding **2007 SURVEYS**: Please remember to begin tracking your volunteer hours and activities now, and on a continuing basis for yearly reports that will be mailed to each group in January. This helps the program capture federal funding to continue resources for conservation of Delaware's wetlands and wildlife areas.

Volunteer Recognition for AAW County Coordinator

The Delaware Adopt-A-Wetland Program (DE AAW) is very fortunate to have several committed folks at the county level who faithfully contribute their time and talents to our program in assisting our adopters in many, many ways as they care for our state's wetlands.

One of these faithful "stewards" has been Nancy Parker of Artesian Water Company, Inc. who retired from our program last October and who was with us for many years helping adopters in New Castle County with their good wetland works.

On a warm, beautiful evening early last October DE AAW hosted Nancy, her daughter and son-in-law for a recognition dinner party at the historic home of Kathy Tidball in old New Castle to recognize Nancy's many efforts for AAW over the years. Our very best wishes to Nancy in all her future endeavors!



Photo from left to right: Gary Kreamer, AREC Training Administrator; Marlene Mervine, State AAW Coordinator; Nancy Parker, Guest of Honor; Kathy Tidball, AAW New Castle County Coordinator; and Diana Koch, AREC Intern

Delaware Adopt-A-Wetland Program
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Kathy Tidball, Learn & Serve Program, Delaware Dept. of Education

Diana Koch, Aquatic Resources Education Center Intern

Anthony Jackson, Aquatic Resources Education Center Intern



Newsletter Editor: Trina Cale-Rosario

WORKING FOR WETLANDS



NEWSLETTER OF THE DELAWARE
ADOPT-A-WETLAND (AAW) PROGRAM

Issue #13
April 2008

In Wetlands Conservation — "The I's Have It"

At a time when many of Delaware's natural wonders are facing a ground swell of threats, let's pause for a bit to contemplate the power of "I" and how "I" can be part of a powerful way to preserve some of those wonders - our state's beautiful and bounteous wetlands - for the health and enjoyment of current and future generations.

Our persona begins with "I" from the cradle - how *I* can *identify* with parents, *imitate* and learn from *influences* around me, and eventually grasp *ideas* and grow into a responsible, unique *individual*. Somewhere along the line we will be exposed to other I-words that can *inform*, *interest*, *illuminate*, *inspire*, and become the *influences* that allow us to make *impressive* differences for those around us and for the places where we live - perhaps even for the Good Nature of Delaware.

IMAGINE – The Delaware Adopt-A-Wetland Program (DE-AAW) was born through the *imagination* of Dot White, a lady walking her own downstate property *investigating* how she could lessen that property's *impacts* upon its watershed. Thoughts are powerful and often are seeds just waiting to be sown, watered and nurtured into a great outcome like Dot's. From that one person, DE-AAW now has more than 2,500 folks - families, farms, schools, businesses and service organizations - out there caring for many of those Delaware wetland wonders. Just think what could grow from one of your *imaginings*!

INITIATE – The need to preserve our wetlands is *imperative*. They have been described as marvels of natural engineering, the toxin-removing/water cleansing "kidneys of our estuaries", *invaluable* buffers for flood and storm damage, *integral* components of our wildlife habitat, *inspirational* and *invigorating* places for recreation and relaxation - and yet, nationwide, they are disappearing at an alarming rate! We must find ways to *institute* protection strategies and *initiate* public awareness projects to conserve our remaining wetlands before they are lost forever.

IMPLEMENT – No time now for *indecision*. It's time to roll up our sleeves and get to work! Time to *increase* our *involvement* and efforts to promote our wetlands as valuable assets that are vital to our health, economy and quality of life. Presently with over 90 sites statewide, Delaware Adopt-A-Wetland has new tools for 2008 to help our adopters *implement* their commitment to stewardship in ways that can *improve* wetlands conservation in their own communities across Delaware. We are working hard to *identify* more ways to expand the effectiveness of our program and to *impart* these "wet place values" to all into the future. Because in Delaware, we all live close to some kind of wetland - *IMAGINE* what the "I" in you could do to make a difference!

By Marlene Mervine, Program Coordinator



Photo courtesy of Richard Field, Richfield Productions

Adopter Group: Silver Lake Center

“Do not train children to learn by force and harshness, but direct them to it by what amuses their minds, so that you may be better able to discover with accuracy the peculiar bent of the genius of each” – Plato.

To address “real world” issues, the staff at Silver Lake Center integrates Plato's philosophy into their every day curriculum and all classes begin with this goal in mind. Nothing exists in a vacuum - experiences shape every learning opportunity. All children possess an individual brilliance that may be hard to see at first, but it is our duty to provide the polish that enables each student to shine! To achieve this outcome, students must become active participants in the educational process. Our state's standards require that students show awareness of nature and the applications of science and technology, so in order to accomplish this goal, our students decided to adopt the wetland near our center. Some created pamphlets describing the wildlife in the area. Others decided to keep journals to record events, posed questions, and then did research to answer those questions. Still others chose to conduct experiments on the soil, water, etc. to make predictions about the environment. All tasks necessitated use of skills of observation and research as well as technology, to produce a “product”. Each student “shined” in different ways, each was able to show evidence to meet set standards, and through these varied experiences, each learned to see their surroundings in a different light, understand their values and decide how to make a difference with this knowledge.



Although our wetland is rather small, it provides an enormous benefit to surrounding wildlife and the community of Middletown. Various flora and fauna are the recipients of its bounty. This season, egrets, blue heron, ducks, seagulls, bass, bluegill, catfish, dragonflies and several frog species feasted on the smorgasbord provided by the Center's wetland waters. Some species even call it home! Our staff and students work diligently, year in and year out to care for this precious part of nature. To maintain the health of this wetland and pond, several tasks must be performed seasonally. *Phragmites* removal is of utmost importance so that the wetland can sustain a good diversity of aquatic life. Participants also regularly eliminate debris from the area to cut down on pollution. Bird boxes, feeders, and benches

are refurbished as well. Along with preserving the wetland area, students also try their hand at catch and release fishing. For many, it is the first time they have ever experienced fishing and it has been a wonderful way to motivate the children. So much of America's wealth will be lost if parents, teachers and community members fail to pass down Plato's wisdom to the next generation. It is time to celebrate each child's uniqueness!

By Kathy Devine

Our Wetland—Adopter Group: Bill & Rose Ann Battista

Once upon a time there was an old brick house and a barn sitting on 3 acres of land with an additional 5 acres across a ditch. For many years the 5 acres were farmed, then planted in hay for our daughter's horse. This parcel was landlocked, and eventually, left to its own devices, became an eyesore. After years of inquiry, we learned that the State of Delaware and the Federal government had funding available to replace wetlands lost to development. We were referred to Tom Barthelmeh at the State of Delaware's Department of Natural Resources & Environmental Control. This was the beginning of our adventure.

One warm, sunny, day in August 2004, with all the government red tape and scheduling roadblocks finally resolved, Tom arrived with a few pieces of heavy equipment and an artist (John Lucks) behind the controls of a bulldozer. A pipe was planted in the ditch and the bulldozer was free to move about the property, sculpting hummocks, pathways and ponds. A week later we had a wetland, or rather, the skeleton of a wetland. It took several months of rain, including the remnants of a few hurricanes to fill up the ponds.

We treated the section of wetland on the house side of the ditch as an extension of our yard/gardens and planted bulbs, flowers, and, with some help, shrubs and trees; keeping in mind everything would have to survive without irrigation. We also planted a “meadow” flower bed in the center of the back five acres. Each time we walk through the wetland, we experience something new to admire, avoid, or ah-ha! In the beginning we were excited when the seeded orchard grass and clover sprouted and the swallows and martins scooped up the mosquitoes. That first spring brought shorebirds and peepers. We have been feeding the birds for years, but the wetland attracted many more. We had a flock of robins bathing in the shallow ponds; woodpeckers, red-winged blackbirds, thrushes and bluebirds nesting in the pines and cedars. We see raccoon, deer and fox tracks in the wet ground. We have a cacophony of music from a variety of frogs all spring and summer.



(article continues top of next page)

The wetland has evolved over time. We added more bird feeders and bird houses, planted more bulbs and flowers, built more "shelters" with tree trimmings and yard waste. We had a pair of mallards nest and hatch eleven ducklings. We had a confrontation between a great blue heron and a Canada goose. We have seen water snakes, black snakes, and turtles in and around the wetland. We have a pair of little blue heron who frequent the ponds for food. In addition to the wildlife, the ponds are home for rushes and wooly grass.



By Bill & Rose Ann Battista

Adopter Group: The White Family & Friends

I first visited the Blackbird State Forest area with my friend Jeff Gordon on a mild, misty night back in 1982. I couldn't believe what I was seeing and hearing. As we waded through the knee deep water of the dark Delmarva Bay (a large vernal pool) that the locals call the Horsepond, we were surrounded by hundreds of calling frogs of several species. The cacophony of sound was nothing like I had heard in Delaware before and it reminded me of the swamps of the southeastern states. Gray Treefrogs, Southern Leopard Frogs, Eastern Cricket Frogs, Northern Green Frogs and American Bullfrogs were everywhere calling, mating, jumping, and swimming around us. I was overwhelmed that night and knew that I would be visiting this area many times in the future.

In fact I have visited this area many times and each time I am as excited as I was during my first visit. This excitement led me to begin monitoring the amphibians in the Delmarva Bays in the Blackbird area and I have done so for 25 years. In fact it was in these wetlands that my wife Amy, friend Gene Hess, and I first discovered a new species for Delaware: the Barking Treefrog. I also wanted to create an awareness of the importance of these wetlands that we call Delmarva Bays or Coastal Plain Ponds. One way to do this was to share this incredible place with family, friends, and students by leading field trips each year to the area.



Jim White and his son James looking for salamander larvae in Horsepond.



I was very encouraged to say the least, when I heard that DNREC was going to start an Adopt-a-Wetland Program. The thought of other people making the effort to protect and maintain wetlands was very exciting indeed. Of course my family, friends, and I joined the program, adopting the Horsepond and adjacent wetlands. For several years we have monitored the dragonflies, damselflies, amphibians, reptiles, birds, and mammals in these wetlands. While not as interesting, we also pick up roadside litter whenever we find it.

We have enjoyed participating in Adopt-a-Wetland and I encourage everyone to continue to care for their adopted wetland and even make an effort to recruit more people into the program.

By Jim White, Educator/Naturalist at Delaware Nature Society and Author of Amphibians and Reptiles of Delmarva

The Adopt-A-Wetland Program Welcomes New Adopters for 2007

- Bay Crossing Homeowner's Association (Lewes)
- Nathan Valenti - Boy Scout Troop #903 (Dover)
- Danny Valenti - Cub Scout Pack #154 (Dover)
- The Kent County Conservancy (Dover)
- Middletown High School Bass Anglers
- St. Andrew's School (Middletown)
- The Adam Family (Lewes)



Congratulations 2007 Adopter Award Winners!

AAW is proud to recognize the efforts of the following groups for their outstanding wetland stewardship work during 2007:

- Rich Field & Kathie Hepler
- Nando's Garden
- Woods on Herring Creek Homeowner's Association

The future of Delaware wetlands is in your hands!

2007 Fall Workshop Triple-Play

Fall boasted a series of workshops that have happily resulted in a flurry of activity for our Adopt-A-Wetland staff. Starting off the series was the “WADE-ing Into Wetlands” Teachers In-Service Workshop held on October 12, 2007. The workshop was well attended by teachers from throughout the state. A special presentation was given by AAW adopters Pam Vanderwende and Kyle Dougherty of Phyllis Wheatley Middle School describing the activities of their Conservation Club students. They also provided valuable information on how other schools could start their own Conservation Clubs. The workshop was enhanced by the presence of Environmental Concerns’ “Wetland On Wheels”, an impressive mobile unit that provides hands-on wetland educational instruction. It was a beautiful day for participants to explore the AAW sites at Brader Elementary School and Christ the Teacher School. Special thanks to Steve Williams of DNREC’s Ecological Restoration Team for leading the field trip tour and to adopter Sharon Brubaker of Brader Elementary for being such a wonderful host and sharing with the workshop participants the amazing array of wetland education activities she utilizes with her students.



We held two AAW workshops this fall, one October 29th at the AREC and the other November 12th at the Ommelanden Hunter Education Center. Both workshops focused on familiarizing AAW adopters with the newly updated “Testing The Waters” and “Mac-Pac” field monitoring kits. Water samples from several different wetland sites were provided for workshop participants to test with the new materials provided in the water test kit. A wide variety of macro-invertebrates were also provided. Participants found themselves scrutinizing the contents of various tubs, bug-boxes, and magnifying cases utilizing laminated ID cards to identify the critters before them. By the number of kits that went flying out the doors with our adopters, we can only assume the workshops were a BIG hit!

The success of these workshops has resulted in new adoption interests as well as increased activity at established adoption sites. AAW staff are determined to provide additional workshops and resources to assist our adopters. To that end, we are now busy with major updates of our “Wetland Wildlife” and “Wetland Plants and Invasives” monitoring kits, with an eye to having kits cloned for loan, and trainings in their use, for later in 2008. For those adopters interested in leaping into early spring frog monitoring, don’t forget that we have multiple copies of our “Helping with Herps” kits here at the Center waiting for your call.

By Diana Koch, ARE Center Educator

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DE Adopt-a-Wetland is sponsored by the DE Department of Natural Resources & Environmental Control, through grant funding provided by the U.S. Fish and Wildlife Service and U.S. Environmental Protection Agency.

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WORKING FOR WETLANDS



NEWSLETTER OF THE DELAWARE
ADOPT-A-WETLAND (AAW) PROGRAM

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WETLAND TRANSITIONS

Early spring — in the midst of our busy lives and frantic scheduling, we are, almost imperceptibly, becoming aware of the subtle nuances of change that herald another of Mother Nature's times of transition. Slightly lengthening days, warming earth, increased wildlife activity and 'cabin fever' all combine to give us an anticipation of spring and summer and the joys of flowers, fishing, gardening and such ahead. At this time each year, our wetlands too are transitioning — replenishing with winter rains from the droughts of last summer and fall. They are beginning to come alive and within days will resound with the raucous calling of amphibians, echo the beautiful notes of returning songbirds, provide glimpses of elusive wildlife, and reflect breathtaking sunsets — and we, in awe, will stand at the edges and marvel!

"The edges where land and water meet charm us all", wrote author Tom Horton. Indeed, if we take the time to be quiet and charmed at those edges, we can begin to realize that these areas of delicate ecology are the powerhouses that keep key elements of our environment in balance and they deserve protection, thereby providing for our health and welfare, both now and far into the future.

Since colonial times we have drained, filled, farmed and paved over half of our original wetlands into oblivion, thereby transitioning one of our vast sources of "natural productivity wealth" (wetlands typically produce twice the yields of farm crops, at no cost) into uses that do not provide "sustainability", (uses that allow us to consume, but not deplete original natural capital). Again sadly, to quote Tom Horton: "the concept of valuing economic activity that preserves and enhances natural capital — our base inheritance of forests and wetlands and quality waters — remains an intellectual abstraction". This is a reality that needs to be recognized and reversed, not only here in Delaware, but nationwide.

In Delaware, we are doing our part to promote new initiatives: programs that seek to restore degraded wetlands, and events that teach us how we can help our wet places transition from 'impaired' to 'improved'. As part of that effort, we are now putting the finishing touches on a new Wetlands Restoration Guidebook for Delaware Landowners (to be released later this year). In a few short weeks (April 4, 2009 to be precise), AAW will be offering its annual "Working for Wetlands" workshop at the ARE Center (see flyer insert). In our ongoing quest to provide new ways for people to appreciate and care for wetlands, this year's sessions will feature a wildlife watching focus, including hands on activities using AAW's new "wildlife watching loan kits", along with a special "spring salamander swamp romp" trip with AAW volunteer and expert naturalist Mick McLaughlin of JCM-ECI Environmental Consulting. Take an afternoon away from your normal routine and come join us — we promise a fun time of learning (and wetland goodies too)!

Wetlands in Delaware are the invaluable, lovely transition areas between our lands and waters. It will be up to us to protect them for future generations.

By Marlene Mervine, Program Coordinator



Photo courtesy of Bill & Rose Ann Battista

Adopter Group: Phillis Wheatley Middle School Wetlands

Wetlands are alive with magic. Imagine that you are surrounded by determined dragonflies buzzing about, massive camouflage bullfrogs chatting continuously, cattails swaying in the wind, red-winged blackbirds dancing among the fluff, and snakes slithering to find their mates. Welcome to The Conservation Club at Phillis Wheatley Middle School wetlands, which started in the fall of 2006, taking pride in their wetlands and valuing the magical life that inhabits them. Students at P.W.M.S. have been given an educational oasis through their wetlands. The wetland pool is frequently used for water testing, observing wildlife, and studying hydrophytes and how they protect this environmental treasure. Three years ago, our treasure was buried under an abundance of cattails and brush. Immediately upon adopting our wetlands, students and animals alike discovered this special environment and soon began enjoying the benefits of our varied preservation efforts.

Staff, students, parents, and members of the community have all witnessed the beauty and importance of our wetland. During the first year of adoption we followed a Mallard duck and watched as she nested, hatched, and raised her ducklings. This proved to be a rewarding and personal experience for all. Students and staff were very concerned about the eggs and made sure that the wetland was free of any storm-water debris. Students learned about noise pollution as well. Can you imagine how challenging it is for a middle school student to tiptoe around the wetland quietly? They do it proudly!

Last March we spotted at least 17 garter snakes mating in the brush. It was an amazing experience for the students to see these reptiles up close and observe their mating habits. Our wetland also provides rest stops to herons, waterfowl, and various species of birds. Frogs have been especially amusing to watch. Students are amazed at how enormous and loud they are. The success of our wetland has spurred us to add other wildlife sanctuaries, including a secret garden, Koi pond, and songbird and butterfly gardens, all enhancing the beauty of our school grounds and attracting more wildlife to our wetlands. Adopting our wetlands is an amazing experience for our Conservation Club students because they learn life-long skills they will carry with them for the rest of their lives, and realize the importance of valuing what nature has so graciously given us. They are always ready to roll up their sleeves, put on their waders, and get to work, knowing how their efforts can make a difference in our community and inspire others to adopt wetlands.

By Pam Vanderwende, Educator at Phillis Wheatley Middle School

Adopter Group: Elementary Workshop Montessori School, Wilmington, Delaware

Last year our class went every week to test the waters at our Adopt-A-Wetland site at Gambacorta Marsh. Our students have become "experts" in testing the water and have created a movie that shows what they have learned through their water testing. Last spring they led a workshop at the YouthCan Conference at the American Museum of Natural History in New York City, where our 4th-6th graders showed middle school students from around the world how to test the water as we had been doing all year.

Each spring, YouthCan (www.youthcanworld.org) welcomes over 1,000 environmental students and educators to participate in educational workshops at the American Museum of Natural History in New York City. Through the use of telecommunications, students from Texas, China, India, Kazakhstan, Kyrgyzstan, Slovakia, Japan, Argentina, Australia, Brazil, Novosibirsk and many more have also been able to experience the event. The entire YouthCan conference, including all workshops and activities, is designed and presented by youth" and uses technology to inspire, connect and educate people worldwide about environmental issues.



As a class, we have gone to this conference every other year where we meet in the American Museum of Natural History Hall of Oceans with students from around the country and the world. This will be our third year traveling there as a class and presenting aspects of our work in our wetland. In 2004, Elementary Workshop Montessori School shared their recycling project at the conference; in 2006, we shared our work on the food chains in the wetlands; and in 2008 we shared the water testing activities that we had done all year in our marsh.

By: Amy Dwyer, Teacher, Elementary Workshop

Adopter Group: Envirotech Environmental Consulting, Inc.

Envirotech Environmental Consulting, Inc. (EECI) began working on the adopted wetland behind and immediately adjacent to Blue Coast Restaurant (then Red Fin Restaurant) in Bethany Beach, Delaware in 2001. This approximately 1.46 acre wetland consists of Salt Marsh and Transitional Maritime Forest Tidal Wetlands associated with the lagoon estuary of The Salt Pond. When work began, the wetland was severely degraded by the invasive species *Phragmites australis* (Common Reed) and *Rosa multiflora* (Multiflora rose). A management program was established to eradicate these invasives and allow for the propagation of beneficial native wetland species. Besides

improving the habitat value of the vegetation, a *Pandion haliaetus* (Osprey) platform and song bird nesting structures were added. Also, the Department of Natural Resources and Environmental Control, Division of Fish and Wildlife, Mosquito Control Section added and rehabilitated several mosquito ditches to improve hydrology.

The wetland now provides superb sunset views from the dining room window of the restaurant. The Osprey platform, song bird nests, and the mosquito ditches add to the picturesque views as migratory birds and wildlife interact in their niche. The Osprey platform has hosted a successful nesting pair for the past seven years, and the song bird nesting boxes provide homes for marsh wrens (*Cistothorus palustris*). The transitional maritime forest tidal wetland is now dominated by the *Spartina* grasses *S. patens* (Salt Meadow Hay) and *S. alterniflora* (Smooth Cordgrass), along with *Iva frutescens* (High Tide Bush), *Myrica pensylvanica* (Northern Bayberry), *Panicum virgatum* (Switch Grass), *Typha spp* (Cattails), *Carex spp* (Various Sedges), and *Juncus spp.* (Various rushes). The area serves as critical habitat for these and other species.

EECI continues to implement a comprehensive management plan for the control of exotic invasive and native nuisance vegetation. The area is monitored and maintained with a frequency and duration sufficient to ensure exemplary wetland structure and function. Trash and debris are removed, and monitoring reports are provided on a regular basis. The area is used frequently by bird watchers, especially when the ospreys are nesting. The staff at EECI continues to enjoy and take pride in our little adopted wetland. The Adopt-a-Wetland Program has been valuable to all involved at EECI.



**By: J. Wesley Allen, Environmental Scientist/Director of Operations, EECI
Todd A. Fritchman, Aquatic Biologist/President, EECI**

The Adopt-A-Wetland Program Welcomes New Adopters for 2008

- Smyrna High School and Middle School FFA Groups – AREC site
- Lupe Reynolds, DNREC -- Rittenhouse Park, Newark
- Vickie Henderson and Family -- Blackbird Forest site
- Polytech High School -- Polytech schoolyard site and vernal pool
- G. Failings Wildlife Sanctuary -- Farm wetland restoration site, Woodside
- Willow Lake Homeowner's Association -- Willow Lake wetlands near Millsboro
- The Independence School -- schoolyard wetlands (re-adopted from 1994)
- Wetlands Stewardship Association -- Louis Storace family wetlands

The future of Delaware wetlands is in your hands!

Identical Twins—The Gray Treefrogs



There is no doubt that my favorite time to visit vernal wetlands is on warm humid nights in May and June. These balmy conditions are the stimulus for several species of our most vocal frogs to make their way to the pools, creating a cacophony of sound that is truly amazing. Two of the most common frogs that can be heard calling from flooded pools, ditches, and other wetlands are the **Gray Treefrog** (*Hyla versicolor*) and the **Cope's Gray Treefrog** (*Hyla chrysoscelis*). These handsome treefrogs are identical in appearance and can not be differentiated

in the field by sight. Both species are medium-sized, stout, warty treefrogs that can change color depending on activity level, temperature, and humidity. The head, body, and legs are usually light to dark gray or grayish green above and are covered with numerous small warts. A darker, irregular blotch is located on the center of the back, and the legs usually have dark crossbars. A white spot is located below each eye. The hidden surfaces of the hind legs are bright orange or yellow with black mottling.

Even though these frogs look alike, there is a way to tell them apart in the field if they are calling. The advertisement call of both species is produced through a single vocal sac and can be described as a loud, flutelike trill typically lasting for about one-half to two seconds. But the trill of the Gray Treefrog is lower-pitched, shorter in duration, and slower than that of the Cope's Gray Treefrog, under like conditions. Therefore, it is relatively easy to differentiate the calls of these species when both are calling in the same area. However, positive identification is difficult when only one species is present because of the lack of a basis for comparison and because the trill rates and sound quality are affected by air temperature (the calls are slower at lower air temperatures).

Although of no use in field, these frogs can also be identified to species by counting their chromosomes. The Cope's Gray Treefrog is diploid, having 2 sets of chromosomes per cell, whereas the Gray Treefrog is tetraploid, having four sets of chromosomes per cell. When not at the breeding pools, both species are found in or near deciduous and mixed deciduous-coniferous woodlands throughout the Coastal Plain of Delaware. It appears that the Cope's Gray Treefrog is much more common than the Gray Treefrog in the southern half of Delaware's Coastal Plain, while the reverse is true in the northern half. Both species are primarily arboreal and search for insects and other invertebrates in trees and shrubs.

So if you are up for a great time this spring, grab your flashlight and visit one of our many wetlands after dark and search for these amazing amphibians.

By Jim White — Wetland Adopter & Author of "Amphibians & Reptiles of Delmarva"

Delaware Adopt-A-Wetland Program

Aquatic Resources Education Center (AREC)
4876 Hay Point Landing Road, Smyrna, DE 19977
(302) 653-2882 x109; (302) 653-3431 (fax)

DE Adopt-a-Wetland is sponsored by the Delaware Department of Natural Resources & Environmental Control, through grant funding provided by the U.S. Fish and Wildlife Service and U.S. Environmental Protection Agency.

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WORKING FOR WETLANDS



NEWSLETTER OF THE DELAWARE ADOPT-A-WETLAND (AAW) PROGRAM

Issue #16
March 2011

Twenty Years of Perspectives: Past, Present and Forward

Perspectives can be defined as *the true relationship of events to one another* and twenty-year perspectives can be eminently eye-opening! After 20 years of tough times and steep climbing, DE AAW perspectives have allowed us to 'rear-view mirror' the state of our successes and shortcomings over time to give us a more accurate snapshot of where we should be heading into the future.

Perspective: On May 8, 2010, the Delaware AAW Program moved past its 20th anniversary and its 100th wetland adoption, noting those milestones with a special mid-state celebration. From its modest beginnings in 1989 with just *one* person's commitment to the concept of groups of citizens caring for wetlands in Delaware---to now having grown into a force of 106 such groups with well over two thousand participants caring for those wetlands---that *one* person's commitment has become a true legacy for public awareness about the importance of wetlands conservation in Delaware. Individuals, families, service clubs, small and large businesses, youth organizations, homeowner's groups and over 35 schools across Delaware will ensure that this legacy will last far into the future!!

Perspective: Did you know that natural wetlands are one of the richest ecosystems on earth with properties that help maintain our economy, health and well being? Delaware has already lost over half of our historic wetlands---lands that clean our water and air, protect us against storm surge damage and flooding, provide superlative recreational opportunities, and contain vital habitat for fish, wildlife and plant resources from which we recover millions in fishing/hunting/harvesting revenue each year. Now, the dangerous trend — threats are arriving from many sectors — sea-level rise, deforestation, residential/commercial development, pond and lake construction, agriculture and road construction. We are still losing hundreds of additional acres of these indescribably beautiful and biologically diverse wet places in Delaware every year! DE AAW needs more folks to help stem this tide!!

Perspective: Each person views things from differing vantage points, but it really all comes down to whether each of us cares enough about our wetlands to mirror the commitment of that *one* person 20 years ago who bucked huge obstacles to establish a fledgling AAW Program, starting a flood tide of action that is helping to make our state and planet into safer and healthier spaces for our children. Even though continuing this work may appear daunting, time consuming, and inconvenient, we *must* continue. Dr. Suess' Lorax captured this concept perfectly when he stated:

"Unless someone like you cares a whole awful lot, nothing is going to get better, it's not!"

By Marlene Mervine, Program Coordinator



The Aquatic Resource Education Center at Sunset - Photo by Marlene Mervine

WORKING FOR WETLANDS



NEWSLETTER OF THE DELAWARE ADOPT-A-WETLAND (AAW) PROGRAM

Issue #17
April 2012

"RICHES AT THE EDGES"

On each of these early spring mornings as I near the marsh on my way to work (yes, the very same marsh pictured below), I wonder which of nature's *riches* await me near these *edges* where land and water meet. And, I am always delighted to see evidences of those *riches* in nature's handiwork—flocks of beautiful Canada and Snow Geese, sometimes outlined against the sky—and sometimes feeding in great numbers in the fields near the vast marshes that protect Delaware's shoreline. At the very *edges* of the marsh there are already acrobatic swallows looking for breakfast, Great Blue Herons and Egrets wading the shallows, Red-winged Blackbirds clinging to the tall reeds, and many beautiful species of ducks dotting the waters of the impoundment and feasting on the marsh's *rich* bounty. These *edges* are only part of the bounty of our wetlands—bounty that provides significant benefit, not only to our spirits, but to our *pocketbooks*!

Delaware's many types of wetland environments provide *riches* to our state in countless ways! Our tidal marshes are one of the most important stops for hundreds of thousands of migrating shorebirds along the Atlantic Flyway, inviting birdwatchers from all over the country to visit here and enjoy the rich variety and abundance of viewing opportunities. Together with wildlife watching in the rest of our state, such activities translate to \$65.4 million dollars annually for Delaware's economy. Hunting in marshes and other wetlands produces \$20.7 million in our state, and fishing, another \$48.4 million—the latter including 557 jobs for Delawareans (based on NOAA data from 2011). When combined with peripheral equipment sales and trip costs, a value of \$134.4 million dollars is realized for Delaware's economy each year from these three venues alone. This figure doesn't even take into consideration the significant revenues generated from timber sales, trapping, commercial fishing, crabbing, kayaking and photography along wetland *edges* here—the bottom line is significant and must be protected!

But, perhaps the most significant financial benefits of our wetland areas are the ones not apparent on today's balance sheets. These are the ones that will significantly affect the bottom line of our economy and the health of our citizens far into the future: improvements to our water quality, better habitats for our commercial and recreational fish nurseries and wildlife, improved protection of our shorelines from flooding, erosion and other storm impacts, and improved areas for recreational enjoyment at those *edges*. Delaware wetlands — holding *riches* for our spirits and also for our pocketbooks — both today and into the future!

By Marlene Mervine, Program Coordinator



Delaware Native Plant Society

Last December, Delaware Native Plant Society members inspected their adopted wetlands at Big Oak Park, near Smyrna, Delaware. During the visit, honeysuckle was removed from some of the trees planted adjacent to the restored wetlands. There were no significant trash issues, but some other issues were identified, including recent mowing of upland buffers adjacent to the restored wetlands, beaver activity, and *Phragmites* invasion of some of the wetlands. Following this inspection, Society members met with Park staff to discuss these issues. The mowing of upland buffer areas was apparently a one-time event, aimed at providing better access for staff to remove tree tubes and maintain bird nest boxes, and the Society was assured that this would not be repeated. Some mowing had also occurred within the outer edge of the buffer surrounding the wet meadow. Park staff agreed to stay outside of the conservation signs (i.e., out of the buffer) for that as well.



The beavers are another story. They have built a lodge within one of the wetlands and taken down some sweet gums, but have not negatively impacted any of the wetlands or upland tree plantings. The most significant issue is *Phragmites*, which has formed a tall, dense stand adjacent to the boardwalk over the stream, and has also invaded other parts of our adopted wetlands. Follow-up is needed, with a tentative commitment from Park staff to treat the *Phragmites* at the end of the 2012 growing season.



By Rick McCorkle

Woodbridge FFA



Members of the Woodbridge FFA are proud to be stewards of the Newton Woods Wetland. The FFA members have learned the value of a wetland in their community and the importance of maintaining such an area for use. Many of our members had been by the area many times, but didn't realize it existed and we've had some discussions about the wildlife and ecosystems that are prevalent. As I discussed the area recently, a student asked "what are duck boxes" and "why are they needed"? A class discussion ensued relating why the boxes were important to Wood Ducks and their need for a safe predator-free area to hatch and raise their young. Thus we cleaned and repaired the boxes on our last visit on March 17th. We were wearin' green and thinkin' green since it was St. Patrick's Day.

By Craig Malloy, Woodbridge High School FFA Advisor

DE AAW note - The Woodbridge FFA's 28-acre forested site is a wetland restoration project on a tributary of the Nanticoke River. The project has multiplied the influence of natural resource conservation to: the FFA's local community and agricultural interests---all of southwestern Delaware, via its connection to the Nanticoke River basin---the state of Delaware, via the FFA's adoption of DE AAW site #110---the nation, via being one of the restoration projects of the USF&W Service---and finally, far beyond our nation's borders, as a project of Ducks Unlimited whose sites assist migrating birds from the arctic to South America. The Woodbridge FFA is doing a terrific job in caring for this important site and knowing that through their efforts the health of western Sussex County will improve for future generations of FFA'ers.

A frog in leopard skin – The Southern Leopard Frog

I remember it well, sitting in my 9th grade biology class waiting for my teacher to start the lab. He suddenly pulled out a box, opened the lid and pulled out a squirming long-legged frog. I was a city kid and had never seen such a colorful, and what I would still say even today, beautiful frog. It was a Northern Leopard Frog (*Lithobates pipiens*) and even though it's final fate that day was a lethal experiment, it made a lasting impression and no doubt contributed to my lifelong obsession with frogs and other amphibians. Although a different species than the one I saw in lab, we are fortunate to have the southern leopard frog (*Lithobates sphenoccephalus utricularius*) occurring in the wild and not so wild wetlands of Delaware. This species is truly a jewel of the frog world. It is highly variable in



coloration exhibiting a background color of light to dark brown to many shades of green. Especially striking are individuals that are metallic green. All have the "leopard-like" spots scattered on the back and sides. These relatively large frogs (2-4 in.) are fairly common throughout the coastal plain of Delaware but are absent on the Piedmont. Their preferred habitats are large vernal pools and freshwater impoundments. In fact, the numbers that can be heard calling from the large fresh-water impoundments along the Delaware Bay Coast can be staggering. On a mild early spring night the cacophony produced by thousands of Southern Leopard Frogs calling from places like Thousand Acre Marsh, Dragon Run and Bombay Hook and Prime Hook National Wildlife Refuges is truly amazing. An interesting phenomenon that we have found and are investigating is the difference in calls used by Southern Leopard Frogs that are found in the coastal areas of Delaware and those the breed in more inland areas. The frogs along the coast, especially in impoundments, use a unique 1- to 2- note call. The more inland leopards use the typical 4- to 5- note call. Both call types are often followed by a low growl that sounds like two balloons rubbing together. Fellow herpetologist Nate Nazdrowicz and I are currently documenting the distribution of these two call types and will be conducting DNA testing to try and determine their relationship. Who knows, we may have a new subspecies or even a new species here in Delaware. So when you're out taking care of your adopted wetland, keep an eye and an ear open for the Southern Leopard Frog.

By Jim White

***** Adopt A Wetland News *****

Senator Chris Coons Visits Bombay Hook NWR

"Wetlands conservation is important to Delaware". So stated Delaware Senator Chris Coons while touring the beautiful tidal wetlands of Bombay Hook National Wildlife Refuge on October 7, 2011 during National Wildlife Refuge (NWR) Recognition Week. Senator Coons was joined by the managers of Bombay Hook and Prime Hook National Wildlife Refuge, NWR President Evan Hirsche of the U.S. Fish and Wildlife and 40 attendees. Delaware is fortunate to have a U.S. Congressional delegation that supports clean air and water legislation. Cleaner air and water are two of the benefits of healthy wetland ecosystems— benefits which will improve the health of Delawareans into the future.



Gary Kreamer Wins 2012 National Wetlands Award in Education

On May 10th the Environmental Law Institute's prestigious National Wetland Award for 2012 in the category of "Education and Outreach" will be awarded to Gary Kreamer, Education Coordinator of the Delaware Division of Fish & Wildlife's Aquatic Resource Education Center (AREC). A tireless advocate of wetlands education and conservation, Gary's 12 years in the classroom and 20 years at AREC have been channeled into designing, initiating and growing wetlands and environmental education programs and establishing conservation partnerships across Delaware and beyond. These programs have influenced thousands of students and adults in local to international settings to appreciate and care for our nation's wetland resources. The award will be presented at the U.S. Botanical Gardens on the U.S. Capitol mall area.

Wetland Workshop Coming!

Come all ye new, aspiring, or looking-to-be-refreshed-veteran wetland adopters! The Adopt-a-Wetland team has set a date for our annual workshop event and it is fast approaching. The [Wading into Wetlands Stewardship: an orientation workshop for adopters](#) event will take place on Saturday, May 5th, between 1:00 and 4:30 PM at the ARE Center (on route 9 east of Smyrna). In addition to the usual amenities of wetland goodies and access to a variety of resources for wetland stewardship, the workshop will feature field trips to nearby wetland sites to demonstrate and distribute useful tools, kits and techniques for assessing and monitoring the character and quality of your adopted wetland area. A highlight of the workshop will be the awarding of annual AAW adopter achievement awards, including the opportunity for some of these successful veteran groups to share the successes (and challenges) of their wetland watching efforts with those just starting out. The workshop is free, but pre-registration is required. Direct inquiries or registration form requests to Marlene Mervine at 302-735-8660 or marlene.mervine@state.de.us.

AAW Links

www.dnrec.delaware.gov/Admin/DelawareWetlands/Pages/Wetlandvalues.aspx

www.dnrec.state.de.us/dnrec2000/Divisions/FW/Adopt-A-Wetland.htm

www.delawareinvasives.net

Visit us on Facebook: [ww.facebook.com/pages/Adopt-A-Wetland/165351020180841](https://www.facebook.com/pages/Adopt-A-Wetland/165351020180841)



Delaware Adopt-A-Wetland Program

Aquatic Resources Education Center (AREC)

Delaware Division of Fish & Wildlife

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Adopter Group: Brader Elementary School

“To everything, turn, turn, turn. To every season, turn, turn, turn. There’s a time for every purpose under heaven.” So goes the saying from Ecclesiastes to Bob Seeger to the Byrds and in nature. Brader Elementary School’s Adopt-A-Wetland project has come full circle and is hoping for a rebirth.

The school’s wetlands were born from a group of enthusiastic staff members who wished to create a pond for an outdoor classroom area. After attending Project WET, the group sought permission to create a wetland area on school property and wrote a grant for educational materials and supplies. Working closely with AAW staff, Brader Elementary and its environmental education committee were able to have the area excavated to create our wetlands. Student volunteers planted all of the original plantings for the area. In 1997, the “Brader’s Wetland Buddies” group was accepted as DE AAW’s 38th “wetland adopter.”

Our wetlands have since served as an excellent outdoor classroom area for the whole school. Staff members have taken students to the area for ‘hands on’ science activities, tying into the science kits for plant life, organisms, trees, insects, life cycles and more. The wetlands have served as inspiration for writing, digital photography, song writing and poetry. Evening programs for Brader families included stories, wetland tours and The National Wildlife Federation’s Frog watch and Swamp Romp activities. In warm weather it was not unusual to see staff members

and kids carefully collecting specimens for “Tadpole TV”. in the Library where students observed, studied and researched wetland organisms. Many research projects included ‘hands on’ observation, specimen collection and research, meshed with technology. Inner city students from Pulaski Elementary visited the wetlands to see frogs, tadpoles and wildlife for their very first time.

But over the years, lack of funding, changes to the site hydrology, overgrowth of cattails, drought, and vandalizing of the bridge and boardwalk left our wetland area in great need of a makeover! So Brader is now on the hunt for grant funding to rehab our wetland. Recently, for his Eagle Scout project, James Brubaker, repaired and replaced the broken and battered wetlands bridge and boardwalk with brand spanking-new ones, James has also given numerous tours and assisted with Frog Watch, breathing new life back to Brader’s AAW work.



By Sharon Brubaker

Adopt- A- Wetland Partners with Plant Propagation Program

The Division of Fish and Wildlife’s Landowner Incentive Program has been working with partner agencies and landowners to propagate native plants throughout the state. The *Plant Propagation Program* focuses on native plants that are uncommon, rare, and/or directly benefit a wildlife species at risk. Many of the plants are hosts to insects identified in the state’s Wildlife Action Plan as Species of Greatest Conservation Need. Through the Plant Propagation Program, seeds are collected from native plants and given to a partner agency/organization for propagation. Plant propagators have included the Mt. Cuba Ctr. in Hockessin, Hodgson Vo-Tech (Newark) and St. Andrew’s School (Middletown). Over the past four years, the Plant Propagation Program has successfully propagated a total of 2,266 native plants! Once plants are successfully propagated, they are distributed throughout the state to landowners with appropriate habitat. In 2010, the Plant Propagation Program partnered with the Adopt-A-Wetland Program to deliver 45 white turtlehead plants to AAW landowners!

The following Adopt-A-Wetland groups have received white turtlehead plants:

- WISH --Wildlife Improvement at Stine Haskell (DuPont) - Doug Senn
- Nando’s Garden - Mary Ann Capria
- Stonewedge Farm - Barbara Hearn, Ziggy Mielkiewicz

The 4-H Environmental Science Club (U of DE) - Joyce Van Stan will be the first to receive plants for 2011 later this Spring.



By Lynne Staub

Whether it is the cacophony of calling frogs, the incredible diversity of aquatic invertebrates, or the sight of a Northern Water snake swimming slowly across the dark water surface, every visit to a freshwater wetland holds the promise of a fascinating natural experience. One of my favorite such experiences is finding a Spotted Turtle *Clemmys guttata*. As its name implies, this turtle typically has bright yellow or orange spots on its black carapace (top shell).



Spotted Turtles are most active in the spring and early summer. Although not guaranteed, one way to catch a glimpse of one of these small, handsome turtles is to visit wetlands such as vernal pools, shallow areas of ponds, or freshwater marshes early on sunny mornings. Quietly approach the wetland and, using binoculars, scan typical basking spots such as logs, banks, and debris. With the aid of a flashlight, you can also see Spotted Turtles at night as they swim slowly through the water in search of food. These turtles are rarely observed during the hot, dry, summer months, and it is possible that they aestivate (sort of a summer hibernating) during this period.

Courtship and mating occurs in the water in spring. The courting male aggressively chases the female in shallow water and around wetland edges while trying to bite her head and limbs. If successful the male mounts the female, grasping her carapace with his hind feet and sliding his tail under hers. Mating may last up to an hour. The females deposit 1- 8 white, elliptical eggs in a nest cavity excavated in grassy tussocks or mossy areas on banks. Eggs hatch in August and September but the hatchlings may remain in the nest until spring.

Although this turtle species is fairly common in some parts of Delaware, populations appear to be declining overall. The decline is largely due to habitat loss, as many of the wetland areas in which Spotted Turtles live have been destroyed. In addition, this species is popular in the pet trade and is susceptible to over-collecting.

The next time you are out visiting a freshwater wetland, remember to keep an eye out for this quiet, slow-moving reptile. With a little luck your visit just might produce a look at one of these precious wetland jewels - the Spotted Turtle.



By Jim White

Mark the afternoon of Saturday, April 9th on your calendar! That is the date (from 1-5 PM at the ARE Center east of Smyrna) for AAW's annual adopters workshop. This year's event, entitled Valuing Delaware Wetlands, will feature a special guest presentation by Chris Bason of the Delaware Center for the Inland Bays, along with our annual adopter achievement awards, and an unveiling/field-based demonstration of a new tool for adopters to use in assessing the health of their wetland sites. See flyer and registration enclosed!

Speaking of changes, AAW bids a fond farewell to Volunteer Coordinator Trina Cale-Rosario, who during her long tenure of service to the Aquatic Resource Education Center, put a great deal of effort into making this newsletter what it is today. We appreciate all of her dedication to DE AAW and congratulate her on her new job with Delaware Health & Social Services.. Thanks for all your hard work Trina — we will surely miss you!

AAW is now on Facebook! Visit us at: www.facebook.com/pages/Adopt-A-Wetland/165351020180841

Other AAW LINKS

- www.dnrec.delaware.gov/Admin/DelawareWetlands Delaware wetlands state website
- www.fw.delaware.gov/volunteers/Pages/Volunteer.aspx Volunteer opportunities with DE Fish & Wildlife
- www.dnrec.delaware.gov/Admin/DelawareWetlands/Pages/AdoptaWetland.aspx AAW website
- www.youtube.com/watch?v=jscyg5xyxXc AAW video on Utube
- www.delawareinvasives.net Delaware invasive species information
- www.parcplace.org/yearoftheturtle.htm Information and educational activities for Year-of-the-turtle

**Delaware Adopt-A-Wetland Program
Aquatic Resources Education Center (AREC)
Division of Fish & Wildlife**

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