

Beaver Creek Wetlands Association

The Spotted Turtle

Volume XX, No. 1

Winter 2007



2007 Calendar

April

Save the Date:

David Quammen on April 5th

On April 5th 2007, David Quammen - best selling author, naturalist, and world traveler - will speak at Wright State University as part of their year-long 40th anniversary celebration. More details will be announced soon, so keep your calendar open on that date. This is one not to miss. The topic probably will be based on his adventures following the footsteps of Darwin: tentatively "Charles Darwin: The Secret Life of a Conservative Revolutionary."

In this Issue

Feature Story	1
From the President	2
Science Corner: Swamp Gas.....	3
Nature Notes: Ice	4
Getting More Involved.....	4
Nature Notes: Winter Survival.....	5
Bulletin Board.....	6
Land Trust Census Report.....	6
Making a Difference	7
Contact Info	8

**The numbers in the table at right include 24 scheduled workdays. We put in twice as many hours at Creekside as last year. None of these hours involve prep time for the work or any indoor volunteer activities.*

What do BCWA Volunteers do? A lot!



BCWA advisor Don Geiger directs volunteers at Creekside Reserve.

Looking back over the past year, the number of hours donated by our volunteers is truly astounding! Outside activities performed by volunteers include: removing honeysuckle and other invasive species like garlic mustard, purple loosestrife and reed canary grass, clearing and mowing trails, mulching trails and trees, sowing seed, planting plants and shrubs, removing cattails, keeping literature boxes filled with brochures, building bridges and overlooks, putting up signs, installing benches, watering new trees, repairing the boardwalk, gathering seeds in the fall, staffing our booth at festivals, and serving as guides for wetland tours. Whew! Hours documented in 2006 for *just the outside activities* through November 12th are as follows*:

Creekside: planting, invasive control, clearing	Siebenthaler Fen: boardwalk maint., brochures, hikes led	Fairborn Marsh: planting and invasive control	Purple Loosestrife Control, Kemp Rd & Fairground Rd	Other: mowing, trail clearing, inspection
389	38	126.5	12	4

Inside activities include putting address labels on the news letter at the Coy House, setting up and staffing our booth at various functions where we are represented, being part of a committee, working on the newsletter, making presentations to various schools and groups, and attending government meetings, such as EPA, City, Township and County meetings.

At least **96** person-hours are spent by our executive committee at monthly meetings and that does not include preparation time. Our trustees and advisors meet once a month except in December so another **165** volunteer hours not including special sessions for committee leaders. Rob Boley, Jim Amon and Carol Amon volunteer their hours to arrange the newsletter. Volunteers worked for over **170** hours for such activities as coordinating the newsletter mailing, setting up and tearing down the booth at festivals, as well as staffing the booth.

Though the past year has been productive, we still have much to accomplish in the coming years! See page 4 for information on how you can get involved! See page 7 for a list of this year's outdoor activity volunteers.

- Bob Louis

From the President... Little Things Add Up

The wetlands are just plumb full of little things...tiny tadpoles that become singing frogs; creeping, chewing caterpillars that become delicate fluttering butterflies; green shoots that grow into glowing marsh marigolds and cardinal flowers; small spotted turtles that sink into the mud at the startling sight of humans; song birds building nests and trilling from the tree tops. These and many, many more little things make up the wetlands. (Not to mention drop after drop of precious water!)

But there are other little things that are critical to the totality of the Beaver Creek Wetlands. There are minutes, many minutes, which add up to hours of hard, wet work by volunteers. This past year over 44,000 minutes (that's 737 hours) were given on sunny Saturday mornings, rainy, wet mornings, cold blowing mornings to remove invasive honeysuckle and garlic mustard; to clear openings for the rejuvenation of fens and marshes; to stuff envelopes and label newsletters (such as this one); to build kiosks and boardwalks.

Along with minutes there is money! Not such a little thing to each of us, but so many of you give so generously of your earnings to this conservation effort, that we want to let you know that your dollars do add up! In 2006, your donations amounted to over \$60,000. This is no small amount! Between your membership dues in the spring, your Stewardship Campaign donations near the end of the year, and gifts from the Combined Federal Campaign (CFC), you keep us moving forward in a healthy financial way. As well, we are committed to having minimal administrative overhead, so your giving truly keeps the Beaver Creek Wetlands growing and glowing.

There are lots of little things to see in the wetlands. Take a winter hike and see what you can discover. After all, these wetlands belong to you and that is no small thing!

Happy New Year!

Susie Scott
President, BCWA

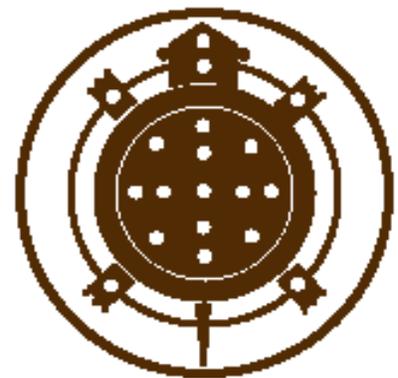
Spotted Turtle Name and Logo: The logo of the BCWA is a rendering of the Spotted Turtle by wildlife artist Charley Harper. Harper, who generously donated the drawing back in 1988, lives in Cincinnati and has produced a wonderful array of art covering innumerable aspects of nature. His work has been adopted by the National Park Service and is appreciated worldwide. Our newsletter title recognizes the Spotted Turtle as an icon for the many rare animals and plants that are protected in the Beaver Creek Wetlands.

Submissions, Questions, or Comments: The BCWA is a member-based organization. Just as we rely on you for annual support, we also rely on you to make this newsletter the product of several diverse voices. So, if you have an idea for an article or a picture to include, please send them to us at admin@beavercreekwetlands.org. Also, we welcome any comments or questions that you'd like to have addressed in this newsletter. For newsletter submissions, questions, or comments, please include "newsletter" in the subject line of your email. We reserve the right to edit submissions for content or clarity.

Donations of Land/Easements: If you are interested in donating land, placing an easement on property, or remembering the BCWA in your will, please don't hesitate to contact the Beaver Creek Wetlands Association at 937-320-9042.

BCWA Annual Report: Copies of the BCWA annual report are available by request. Email the office at admin@beavercreekwetlands.org or call 937 320-9042 to request a copy.

Thanks to Sue Rytel for designing the layout of the *Spotted Turtle*.



Founded in 1988, the Mission of the Beaver Creek Wetlands Association is to protect the wetland ecosystem in the Beaver Creek watershed through partnerships, community networks, and public education.

Science Corner

Swamp Gas

A field trip to the Fairborn Marsh with my class this summer had us trekking out into the middle of the marsh, smelling the decaying vegetation, feeling the oozing mud, stepping on turtles buried in the mud and chasing carp from place to place.

The highlight, though, was to be found with a large plastic peanut butter jar. As the students slogged through the viscous mud it pulled at their feet and belched out bubbles of gas, long trapped in the grasp of the marsh.

We gathered at the water's edge where we slowly sank into the mud, first to our ankles, to mid-calf, then to knee deep. We filled the jar with water and inverted it under water to catch the bubbles. The bubbles rose into the jar and displaced the water.

When it was nearly full of this gas I slowly reached under the water to replace the cap. What was that swamp gas? As everyone gathered around I carefully removed the cap, trying not to disturb the gas. We held the jar at arms length and placed a flame next to the mouth – Whoosh! The gas ignited in a blue and yellow flame visible even in full daylight. Wow, swamp gas burns!

Swamp gas is mainly *methane*, or natural gas, which,

when pure, has no odor. It probably has a bit of hydrogen sulfide (stinky), hydrogen, and carbon dioxide too but a quick trip to the analytical lab showed us that it was mostly methane, the same gas we use to heat our homes and cook our food. It is produced only under oxygen free conditions and it often depends on decaying vegetation. The vegetation decay produces carbon dioxide and some hydrogen and those combine to make methane – all done by bacteria. Some of you might remember the garbage-mobiles of the 1970s when decaying garbage or manure was used to produce natural gas to run automobiles during a shortage of mid-east oil. That is the same process, just somewhat removed from wetlands.

Both methane and carbon dioxide are greenhouse gases and some wetlands can produce an excess of these gasses, but under good conditions much of the carbon dioxide is turned into plant tissue and the methane is turned back into carbon dioxide by yet another group of bacteria called the methane oxidizers. Unfortunately global warming threatens to upset that balance as northern bogs, locked in permafrost for centuries, melt and begin to release methane faster than it can be made into carbon dioxide and used by plants.

- Jim Amon



A group of volunteers at the Fairborn Marsh being assigned by our advisor, Jim Amon (kneeling), to plant shrubs from the nursery, cut and spray honeysuckle, collect seeds and set posts for signs. Fairborn Marsh is the land North of the Division of Wildlife's parking lot on New Germany Trebein Road.

Call for Help: Are You a Civil Engineer?

We are looking for help with a critical engineering problem in one of our restored wetlands. We would love to have someone to volunteer expert advice on how to remedy a complicated erosion problem. Call us if you think you can help. Jim Amon will take you to the wetland and tell you all about the problem and the observations we have made so far. THANKS!

Ohio Wildlife Tax Check-Off

The Ohio Department of Natural Resources has been an outstanding partner in the protection of the Beaver Creek Wetlands. Please remember them when you are doing your income taxes this year by directing a part of your return to them. This program has helped to return bald eagles, peregrine falcons and trumpeter swans to the state, and your support will help ODNR protect natural areas and scenic rivers, reintroduce endangered wildlife and preserve wetland habitat.

Nice opportunity! The Shreve Spring Migration Sensation

On March 24th the people of Shreve, Ohio have an outing at Kilbuck Marsh sponsored by the ODNR Division of Wildlife, Friends of Kilbuck Marsh and other local groups. All events are centered at Shreve Elementary School, 598 North Market Street (State Route 226) Shreve, Ohio 44676. Shreve is about 2.5 to 3 hours northeast of Dayton. There are many opportunities to see wildlife at this wildlife complex of over 5,000 acres. You may even see a Bald Eagle! Go to www.ShreveMigration.org for more details.

Ice

What happens to the “wet” in wetlands in the deepest, coldest winter? As water freezes it forms crystals of pure, frozen water in the soil. These crystals grow, sometimes push soil and even plants out of their way. A walk in the wetlands this time of the year may reveal ice “lenses” where water has heaved the soil into distinct mounds that look almost like mole hills. This wintertime expansion followed by later melting mixes the soil and keeps it loose.

So why don't the plants, that have huge amounts of water in them, get ripped to shreds by these growing crystals we find in the soil? Some do, but those are the annual plants that have nearly dry seeds that survive to grow again come spring. The perennials need antifreeze! And many plants have it. Antifreeze prevents formation of damaging crystals. You can find many plants in the wetlands that stay green

throughout the winter. Sure they die back to prevent the drying winds of winter from robbing them of too much water. They may be dormant but given just a little extra warmth and longer days they spring to life without the need for seed.

Ice in fens is a bit different that in most other wetlands. Because fens are constantly fed by groundwater that comes from deep in the subsurface they tend to stay warmer than marshes bogs and swamps without that groundwater advantage. Just like the air in caves, water in the aquifer stays at around 55 degrees F most of the year. When the air temperature in fens is near zero only a few inches of soil near the surface gets cold enough to freeze. Sometimes you can look through the surface ice and see the water moving beneath it, and where the groundwater discharge is very rapid the surface rarely freezes.

Ice sometimes takes on an

ephemeral art form: *Hoary frost*. If we have one of those mornings where the frost on your lawn is very heavy, and you have nothing better to do, take a quick trip to the boardwalk before the sun gets high enough to melt the frost. Ice crystals form from the humid air and coat the stems and dried brown leaves of wetland plants with a cloak of lacy frozen water as intricate and ever changing as snowflakes. Take your camera because it won't last long. If we are lucky enough to have a good snow and the roads are passable, a walk in the fresh snow can reveal wildlife often missed. Tracks of deer, rabbits, coon, skunk, possum, mink, beaver, mice, voles and birds will treat your imagination. Look for the tiny holes where the mice or shrews running under the snow come to the surface for a look around.

- *Jim Amon*

Interested in Getting More Involved? Here's How!

We are often asked what individuals can do to help BCWA. First, send us your email address and ask to get on our volunteer list. We often send out notices of projects with little lead time so don't worry if you can't do this one – we might work it out better next time. Maybe this effort is not what you like to do – no problem, maybe wait for another one. We don't mind.

Get educated: Another thing you can do is to learn as much as possible about the wetlands. Then teach others. Involve others too. Get them to become members.

Spread the word: Talk to kids, friends, acquaintances, business people and let them know you value and enjoy the wetlands. Tell them about the trails and that our boardwalk is wheelchair accessible.

Take initiative: If you see a job that you think should be done – contact us and volunteer to handle it.

What to wear: Outdoor activities usually requires waterproof boots (sometimes knee-boots), old clothes- preferably long sleeve shirts, and quality gloves. Indoor activities usually requires only casual dress.

Why Volunteer: Get fresh air, a change of scenery, the burning of a few calories, meet interesting people, and learn about new plants, how they function and how to identify them. Most of our outside activities are held on Saturday Morning, starting at 9:00 A.M. and stopping at noon. Occasionally we do Sunday afternoon. Most work activities start in March and continue until Thanksgiving. **We try our best to keep track of volunteer people and their hours since these sometimes can be used as an in-kind credit (matching funds) when applying for a grant.** We have applied for several grants this year. Volunteers for our outside activities also get feedback from the public since people can see the results of their work, usually not instantly but the next year you are richly rewarded as new plants emerge where none existed before. Many methods we use are experimental, especially on invasive species and you can be a part of this research. We should soon have our volunteer activities section of our web page a bit more up-to-date: www.beavercreekwetlands.org.

Winter Survival

It is winter. Listen to the tap of the woodpecker at a dying tree. Observe the gall swellings on the brown stems of goldenrods. Search the grasses for egg cocoons of the orb-weaving *Argiope*. Just one step into the woods, the wetlands, or the meadow, and we realize that plants are not for adornment, but for survival.

At the tops of the trees and among the ivies, we might see birds searching Virginia creeper, American bittersweet, and poison ivy for unpicked berries. Migrants have already gleaned the high-lipid, high-energy fruits of the spicebush, dogwood, and sassafras. Left are the low-lipid berries of viburnum, hawthorn and wild rose. Cedar waxwings, which can digest sugary fruits better than other birds, flock to junipers for their berries. Other birds will find the lingering fall fruits of the butternuts, ashes, beeches, oaks and hickories important winter food sources.

At the base of the trees or near root crevices, we might see middens (dung or refuse piles) of mice, chipmunks, and squirrels. With nut trees, we can determine what kind of animal has left the pile just by the way the nuts have been eaten. Chipmunks will leave the thin shells of white oak acorns in strips narrower than those eaten by squirrels. Gray squirrels will leave the thick-shelled hickory nuts in big pieces. Flying squirrels leave the nuts intact except for round holes with smooth edges usually at one end. Near a wild cherry tree, a pile of tiny cherry pits cracked in half or with tiny holes expose the work of a mouse.

Along the trails we find twigs or seedling trees bitten off at various angles. If it's a deer, the browsed twig will be cut off flat with rough edges that show it has been chewed and tugged at. A cottontail rabbit nips off branches in clean-cut, perfect 45-degree angles, typical of the rodent family. Branches an inch or so around that have been bitten off at such an angle are probably porcupine browse.

Muskrats line their lodges with cattails, phragmites, sedges, sticks and leaves. Sometimes beavers cut down large quantities of branches, pile them up in front of their lodges, and then anchor them into the mud at the bottom of the pond. When the pile gets high enough branches stick up above the water. If the pond freezes over, the beavers still have a source of food below the ice. When it snows we may chance to see drag lines made by beavers where they have hauled branches to eat in safety. During winter, beavers will also eat from the bark of wood that they store in their lodges. Chipmunks spend the winter in their tunnels where they have covered nuts and seeds with dried grasses for winter snacks. Groundhogs hibernate in nests lined with grasses.

On a warm winter day, we may be startled by a butterfly such as a mourning cloak or an anglewing flying about in sunshine. The adults of these brush-footed butterflies winter over under loose bark and in log piles. Other brush-footed butterflies such as red admirals and red-spotted purples interrupt their summer larval development just before winter. The

caterpillars wrap themselves into a tube-like bit of leaf, attaching it with silk to a twig. A persevering observer will be able to find this small *hibernaculum* still attached to twigs of trees when all the other leaves have fallen. Look for their food source trees: willow, elm, hackberry, cherry, and birch.

Spiders of the wetlands include the magnificent *Argiope riparia* those large yellow-and-black spiders that catch our eyes with their magnificent circular webs and colorful bodies. In September the eggs are laid in large pear-shaped cocoons with a brown paper-like surface (like praying mantis egg cases) and hung by threads among the grass and bushes. The young hatch during the winter and remain in the cocoon until May.

Galls, those swellings we observe on the stems, leaves, and trunks of plants, are another unique form of survival. Flies, wasps, or their larvae secrete a substance into the plant that stimulates the rapid growth of cells that form the protective swelling around the larvae. Although the gall protects the larvae most of the time, other animals have learned that galls are a food source. Downy woodpeckers slash through the common stem gall found on Canada goldenrod. Willow trees support a gall that looks like a pine cone, and we can sometimes observe chickadees or other birds piercing the tops of the cones to get at the larvae.

Creatures survive because of the variety and the links provided by all of nature. In winter, as in all seasons, survival is interplay.

- Nancy Bain

A Few Notes on Fairborn Marsh

Great news. On a walk in Fairborn Marsh we found Nodding Ladies' Tresses (*Spiranthes cernua*). These tiny, almost too small to notice, orchids are the first orchids we have found in the Beaver Creek Wetlands. The same trail along the waters edge is also a good place to spot puffball fungi in the fall and this year there was one nearly the size of a basketball. Volunteers spent two days spraying honeysuckle there and we planted numerous shrubs to replace the honeysuckle already killed by previous efforts. Shrubs planted last spring have grown well and are fast becoming established. We have an Eagle Scout project planning a nice platform so you will be able to stop there and scan the marsh edge for wildlife when it is finished. We have mowed a grassy strip around the perimeter of the prairie as a buffer especially near the houses at Fawn Ridge.

More Than Great News! We have funds to purchase and/ or restore land!

BCWA and partners in Greene County Parks, Greene Soil and Water Conservation District, County Sanitary Engineering applied for and received quite significant (lots of \$\$\$) funding from two EPA programs. Some of the funding will help us acquire more wetlands from willing sellers and considerable funds will be available to restore wetlands from abandoned farm fields. As we acquire land a major effort will be the elimination of invasive plants such as reed canary grass, purple loosestrife and honeysuckle that threaten the whole corridor. One catch. If we can't find landowners willing to sell we will lose the funds.

BULLETIN BOARD

Land Trust Alliance Releases Census Report

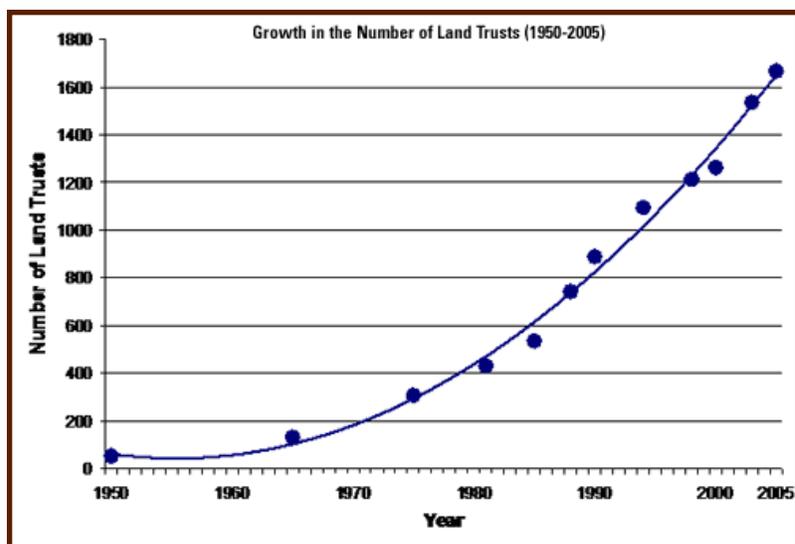
According to the Land Trust Alliance's Census Report, released in November 2006, America loses two million acres of farms, forests and open spaces each year. In the process, more than 100,000 acres of wetlands are destroyed, degrading water quality and contributing to flooding. Americans love their land and yearn to take charge of growth in their hometowns while at the same time respecting the rights of landowners. In this context, voluntary conservation by private land trusts is succeeding on a scale never before seen.

The combined impact of 1,667 private land trusts operating in every state of the nation is growing significantly, bringing the benefits of clean water, wildlife, parks, urban gardens, family farms, woods and rivers to millions of Americans. This new report traces the progress of this largely volunteer movement, with data collected through year-end 2005. For several decades, the Land Trust Alliance has been tracking national trends in private land conservation, with each five-year report showing dramatically more land protected than ever before.

Here in Ohio, the number of land trusts increased from 36 to 44. Thanks to their combined efforts, land trusts now have 11,379 acres owned, 35,262 under easement, and 4,061 preserved by other means. That adds up to 50,702 total acres conserved state-wide! Considering that in 2000 we only had 20,255 acres preserved, that's an increase of 150% in just five years!

Nation-wide, the total acres conserved by local, state and national land trusts increased 54% to 37 million acres in just the past five years. This is an area 16.5 times the size of Yellowstone National Park! Other findings include:

- Professionalism of land trusts is increasing, with most land trusts agreeing to more stringent rules of conduct, and securing larger annual budgets and stewardship endowments.
- The pace of private land conservation has tripled by local and state land trusts. From 1995-2000, land trusts conserved an average of 337,937 acres per year. That pace soared to 1,166,697 million acres conserved per year, on average, from 2000-2005.
- Local and state land trusts increased the acres protected by **conservation easements** by 148%. These private, voluntary agreements saved 6,245,969 acres as of 2005, versus 2,514,566 just five years ago. **Easements allow landowners to take advantage of IRS approved tax incentives. The use of such easements has been on the rise for more than a decade.** Easements are sometimes the only way family farmers can afford to conserve their working farm, ranch or timberlands.



Making a Difference

Thank You!

Thanks to the following people for helping out with the Fall Stewardship Campaign mailing and the annual fund raising mailing.

Dorothy Bordewisch; Bruce Ford; Judith Streiff; Ann Byrd; Lou & Pat Falkner; Susie & Dave Scott; Dave & Mary Townsley; Eleanor Young; Sally Meike; Jane & Howard Klein. A special thanks to the students at the Mound Street Academies, their Superintendent Sue Garretson and teacher Bonnie McHenry for preparing our Fall newsletter, *The Spotted Turtle*, for mailing.

We also want to thank all the volunteers who participated in outside activities this past year (we probably missed a few).

Rob Evans, Richard Swigart, Crissy Back, Susan and Dave Scott, Ann and Jim Byrd, Debbie Karr, Sue Rytel, Marilyn Baumer, Bill Gruner, Doug Hull, Chris Martin, Kate Hagenbuch, Jim Schneider, Chad Whilding, Michael Ericksen, Chad Ferguson, Brett Fisher, Judith Streiff, Mary Klunk, Debbie Ahles and Family, Linda Schneider, Jamie Traxler and Helpers, Jackie Coleman, Sarah Miller, Ed and Bonnie Norviasis, Melissa White, Dennis Jarvi, Robert Louis, eight students from the University of Dayton, Richard Robertson and a special thanks to Don Geiger and Jim Amon, two of our technical advisors for their dedication to preservation.



This newsletter is printed on recycled paper. Please recycle it when you're through ... or better still, share it with a friend!

Join the BCWA Today!

Membership dues go directly to fund land acquisition, our quality programming in education, habitat restoration and management of our preserve. In order to purchase future parcels of land and pay off the mortgage on our most recent purchase, we rely on your membership.

Membership categories include:

\$5-Student	\$10-Senior (60+)	\$15-Individual
\$25-Family	\$35-Contributing	\$50-Supporting
\$100-Patron	\$1,000-Life	

To join, please send a check payable to BCWA to: **BCWA, P.O. Box 42, Alpha, OH 45301.**

Please include your name, address, phone and email. Remember, the BCWA is a 501(c)(3) land trust organization and your donation is tax deductible.



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