THE CARDINAL

No. 233 **November 2013**

Nature London

The McIlwraith Field Naturalists of London Inc.

"To Preserve and Enjoy Nature"

INSIDE THIS ISSUE: REGULAR ITEMS

FEATURE ARTICLES AND MORE

LET'S PARTY LIKE IT'S 1864!

Nature London is celebrating a milestone in 2014 that few nature clubs in Canada can lay claim to. We will be 150 years old! The seed for the club was sown in 1864 when the London branch of the Entomological Society was founded (see page 40). Our organization has taken many forms in the ensuing years to develop into the thriving club it is today.

We are planning many anniversary events throughout 2014 to celebrate this auspicious occasion. We will be selling totes with the Nature London logo for $5. Since this is below the wholesale cost, we would gladly and gratefully welcome any extra donation you wish to give. We hope members will support the club by purchasing tote bags for personal use, as gifts, or even gift bags. They will be a great way to advertise the club's birthday. There will be special articles and photo montages in *The Cardinal* detailing Nature London's history. Many field trips to locations frequented in the club's history will be offered. These outings will be symbolized with a special logo in the Program section of *The Cardinal*. To involve our young people, we hope parents and grandparents will encourage children and youth to come up with creative ways to illustrate the number 150. Be sure to take a photo of the resulting "art" and submit it to the Anniversary Committee as we hope to post a selection of these photos on the website during the year.

This is just a peek at what's ahead. We will keep you informed of other exciting happenings over the course of the year. We welcome your involvement! Please send us your stories and anecdotes of past outings and events. We would like to document the year in pictures and so we encourage you to unleash your inner paparazzo or paparazza and take photos at anniversary events. To submit photos and anecdotes, please attach them to an e-mail and send to

Roslyn Moorhead at
roslynmoorhead@hotmail.ca.

We are kicking off our anniversary year with a party! The Indoor Meeting on January 17 (see page 36) will be a celebration of our past and our future, as well as a social time with old and new friends. Join us for refreshments that will definitely include an anniversary cake. Members are invited to come dressed as a naturalist from the past. If you need inspiration, check out the photo montage (page 24) in this edition of *The Cardinal*.

Happy Anniversary!

Sue Read

Nature London
150th anniversary tote bag.

FROM THE EDITORS: WELCOME NEW EDITORS

We welcome four new "section editors" to the *Cardinal* editorial committee. If you are a regular reader of *The Cardinal*, you will know that there was a considerable recruiting effort made last year to find new *Cardinal* editors. Four people have joined our editorial team, each with responsibility for some part or parts of *The Cardinal*. This issue is our first joint effort.

Susan Thauer is now the "conservation editor" (e.g., Conservation Committee and Ontario Nature reports). Susan has been a Nature London member since 2005, and since then many of her photos have appeared in *The Cardinal*, including one on the cover of the February 2012 flight. Susan, Leslie Kostal, and Ron Martin are dividing the editing of the "features section" (e.g., book reviews, articles). They join Jack Lorimer, who continues to edit the always popular "Ask the Cardinal". Leslie Kostal is a new Nature London member, who has jumped in with both feet, as both an editor and an author. The first of her "Research at Western" articles appears on page 22. Ron joined Nature London in 1998, and has written articles for *The Cardinal* on his research (at Western) on metals in living organisms (see August 2011 and November 2012 issues). Leslie Rockwell edits the "club business section" (e.g., From the Board, News and Notes, Nature London Program). Leslie brings long experience with the club, including being a Board member and Publicity Administrator, to *The Cardinal*. For the time being, we are editing the "reports section" (e.g., bird and butterfly reports) and acting as Editors-in-Chief.

We are deeply grateful to all four of our new editors for stepping up. We sincerely believe that their contributions to their first flight of *The Cardinal* will be the start of taking our publication to new heights!

Betsy Baldwin and Hugh Casbourn

They will take about 5 to 10 minutes to think it over, but Double-crested Cormorants can swallow things that are way bigger than their heads.
(Drawing and caption by Lance Rockwell.)

PHOTO IDENTIFICATION

NAME THAT TURTLE

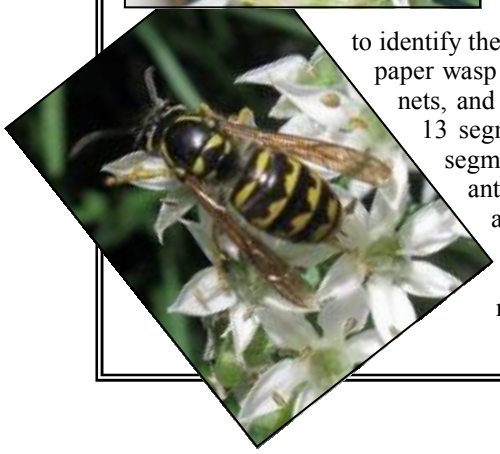
Perhaps you are colour-blind or, more likely, it is a cloudy day and colours are not vibrant. Across a stretch of the Thames, you see, sitting on a log, a turtle with a silt-covered, muddy shell. As you focus your binoculars on it someone comes along and asks "What kind of turtle is that?" As a Nature London member you feel obligated to give an astute, educated, and preferably correct answer. Fortunately, the turtle sticks out its head and lets you confidently answer your inquisitor based on the pattern of markings on the neck and head, as shown in these photos taken and identified by Will Lyons.

You look at the neck and see stripes, some red and others yellow. Then you look at the head and see that the stripe pattern continues right to the tip of the nose. You confidently identify the turtle as a Midland Painted Turtle, *Chrysemys picta marginata*.

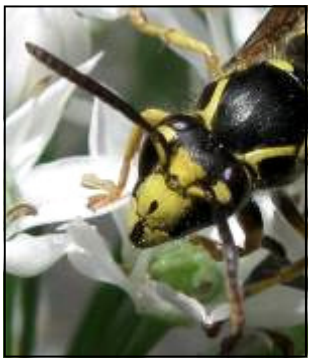
Or perhaps, when you look at the head, you see the pattern change from regular stripes to convoluted, discontinuous shapes that are all one colour (yellow). The turtle that is under observation is without doubt a Northern Map Turtle, *Graptemys geographica*.

One other possibility is the Red-eared Slider, *Trachemys scripta elegans*, the most popular turtle sold at pet stores. Some pet turtles are released into local water bodies, much to the detriment of our native turtles. They have a large red oval where we might expect to see an ear if turtles had ears.

PHOTO IDENTIFICATION



BLACK AND YELLOW



Cardinal readers may remember a discussion of the Milkweed Mimicry Complex (see the August 2011 *Cardinal*). A mimicry complex is a group of species with similar appearance or other characteristics. Here we see examples of another insect mimicry complex, based on black and yellow stripes. We have a delicious (to some at least) and otherwise defenceless hover fly and a yellowjacket capable of delivering a nasty sting. The fly obtains a measure of defence against predators by looking like the flying stinger.

Can you tell which is which? After taking these photos, I spent an embarrassing amount of time trying to identify the fly. I was so sure that it was either a yellowjacket or a paper wasp that I did not look at the antennae. Bees, wasps, hornets, and yellowjackets have long antennae composed of 12 or 13 segments. Flies have short, simpler antennae with three segments. The insect in the top left photo has the simpler antennae and is called *Spilomyia longicornis*. Below it is an Aerial Yellowjacket, *Dolichovespula arenaria*, with its long antennae and defensive apparatus on display. The portraits show that the fly (upper right) even has yellow stripes through its eyes, mimicking a yellowjacket face (lower right).

Hugh Casbourn

A HISTORY OF THE WELL-DRESSED LONDON NATURALIST

Roslyn Moorhead and Winifred and Dave Wake

Come 2014, Londoners will have been enjoying insect watching, birdwatching, hiking, and other outdoor pursuits, all under the auspices of Nature London and its predecessors, for 150 years. Today Nature London's field trips are advertised and open to all members, but such organized field trips are a relatively recent phenomenon. Historically, a "field trip" was more of a private affair, consisting of a small group of friends deciding to go birding or botanizing or geologizing or star gazing together. Expert birders tended to flock together and didn't invite novice birders to come and join them. Back in the 1930s junior birders would scheme to "just happen" to meet up with an expert group at popular field destinations, such as Westminster Ponds. They would then casually "bump into" the elite birders at intervals to ask questions or glean what they could from overheard discussions. But one had to wear the right clothes. What did the well-dressed naturalist wear?

McIlwraith Ornithological Club, outing at Goldenwing Woods, May 24, 1915. Left to right: J.C. Higgins, Mrs E.M.S. Dale, Mrs J.C. Middleton, E.M.S. Dale, Mrs J.H. Cameron, Miss Luta Brown (later Mrs J.F. Calvert), J.C. Middleton, J.H. Cameron.

1915

This gathering looks all dressed up for a party. In fact, they are on a field trip to Goldenwing Woods (now called Warbler Woods), and a century ago this was the typical dress for such an outing. Jackets and ties were de rigueur for the men, long skirts, stylish jackets, and hats for the women. Note that something is missing in this photo: a gun or two and a bag for collected specimens. Until the beginning of the twentieth century, birders commonly carried guns and shot birds for identification and collection purposes. Naturalists of various stripes also collected eggs, butterflies, plants, and just about anything else they could cart home. W.E. Saunders (see 1925 photo) was an expert marksman and shot many birds. Skinning his take of dead birds immediately after an outing was the perfect ending to a successful day. Perfect, except for the birds, that is. Fortunately, by 1915 guns had generally ceased to be a necessary fashion accessory.

1925

Ten years later, as seen in this 1925 photo taken at the Wellington Road entrance of Westminster Ponds, a field trip still looks like a dressy affair. The men have jackets and ties and dress shoes. The women all wore mid-calf length skirts. Sailor blouses with ties were in fashion. But most of the women have shed their hats; it's the men who were well-topped with summer hats or berets. It was a very natty expedition.

Teachers gather for a bird hike during a summer course on Nature Study and Agriculture. The person on the far right is Professor Detwiler, instructor for the course. Second from the right is W.E. Saunders, a leading member of the McIlwraith club and owner of the property at the ponds.

1930s

Birdwatching in the thirties, and Frances Jacobs (later Girling) is breaking new sartorial ground for women on field trips. Her riding breeches were a first for women in

An outing to Goldenwing Woods, 1937.

London. Frances grew up on a ranch in Alberta and was used to riding horseback to and from school. The horseback riding demanded such clothing, and when she moved to London she brought the fashion with her. Frances continued to wear riding breeches until slacks for girls came into vogue. She is also wearing a fashionable hat and short jacket. To her left, a young Keith Reynolds is dressed more casually than men in the earlier pictures. Mel Dale, on the right, is more formally garbed. Note that it must be muddy and wet; all three members of the party are wearing waterproof boots unlike the dressier shoes of the previous photo.

Is that a tramp (below) with Frances Jacobs (Girling)? No – it's Fred White, a farmer who owned White's Bush, now Springwater Conservation Area. A confirmed bachelor, Fred was the subject of many stories and much chuckling relating to his lack of culinary and housekeeping skills and his absence of fashion sense. Fred is definitely not worried about fashion! His clothes are rumpled and of questionable cleanliness, and his coat is even fastened with a big safety pin. Frances has a long stylish coat and sports her trademark slacks, with long, warm stockings pulled up and over. But, take a closer look – she seems to have borrowed a page from Fred's fashion book. She too wears a big safety pin to fasten a mysterious fashion accessory under her jacket. However, she has drawn the line at adopting Fred's wrinkles, unlaced boots, and aversion to laundry day. And what is that hat that Fred is wearing?

At a time when Beavers were exceedingly rare in Southwestern Ontario, a small colony was resident in Fred White's farm pond. Here Frances joins Fred on his way to feed the Beavers. At the sound of Fred's voice, the Beavers would swim to the edge of the water and accept his offering of cut-up apples. (Photo by Bill Girling, fall 1936.)

1940s

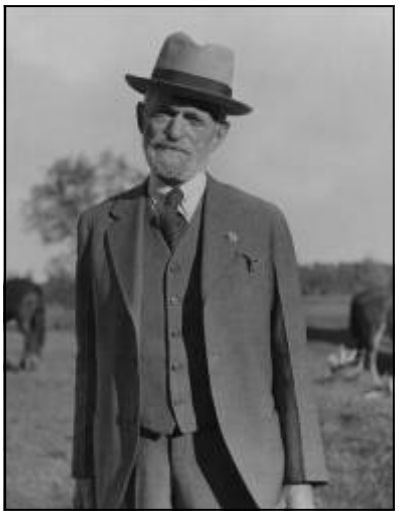
It is a field trip to Dorchester Swamp and the weather is snowy (below). The gentlemen are still wearing ties, and Harry Girling has a dress-type coat on. Keith Reynolds is in military uniform. Frances Girling is in nylon stockings and short boots, wearing a fancy hat and a new grey karacul-fur (i.e., Persian lamb) coat that she has purchased for her wedding and is very proud of. Are their boots and shoes waterproof? Brrrrr – it looks cold – are they warm enough? Perhaps goose bumps are considered a fashion accessory. Mel Dale, in country hat, tall boots and thick mitts may be the most comfortable member of the crew.

Left to right: Mel Dale, Harry Girling, Frances Girling, and Keith Reynolds. (Photo by Bill Girling, February 1941.)

For many decades, field trips would end with a light repast cooked over an open fire. W.E. Saunders was famous for his ability to quickly start a fire under any conditions, and for his unchanging menu – burnt toast and bacon on a stick. No dishes required! He ate it right off the stick it was cooked on.

On the next page, John Dearness and Eli Davis carry on the tradition and share a meal. Davis, who operated a commercial greenhouse, appears comfortable in his pith helmet and shirtsleeves. Dearness, who was famously formal in his dress, is unusually informal, wearing a casual jacket, slacks, and cap. Even on field trips he habitually wore a dapper three-piece suit, white shirt, tie, formal hat, and low rubbers over well-polished dress shoes (see next page). Perhaps, after a long career as principal of the Normal School (teachers' college), he found it difficult to relin-

quish dressing as a role model for prospective teachers. Incidentally, Dearness was 92 when this photo was taken and he lived another 10 years.



Left: Dr John Dearness and Eli Davis at the St Thomas Waterworks, 1944. (Photo by Keith Reynolds.)
Right: Dr John Dearness, dapper in his regular field trip clothes. (Photo by Bill Girling, 1937.)

1950s

Like our members do today, naturalists went on field trips to Hawk Cliff in the fall to observe kettles of raptors in migration. No suits and ties; no skirts either. Formal hats have disappeared. There is only one long coat; everyone else is wearing a short jacket. Dress has become far more casual, comfortable, and practical.

Club outing to Hawk Cliff:
on left, Jim and Edith Leach, both holding binoculars, with Florence (Tommy) Cummings in between. Gord Cummings (with pipe), is leaning against the car (probably of '52 to '54 vintage).

2000s

Today, a century later than the time of the first photo, we have definitely jettisoned the long skirts, the suits and ties, and gone for comfort and a more casual style. We have lightweight highly insulated jackets and waterproof breathable fabrics rather than heavy wool or fur coats, warm boots rather than dress shoes, and tuques rather than berets or homburgs.

(Roslyn Moorhead is a member of the 150th Anniversary Committee and is the Cardinal *Representative on the Board of Directors. Winifred and Dave Wake are Nature London's archivists and are also members of the 150th Anniversary Committee.)*

(All photos, except the last, are from the Nature London archives. Individual photographers are acknowledged where they are known.)

Authors' Note: Nature London's January Indoor Meeting will be a celebration of our 150th anniversary (see page 36). Join us! Celebrate our history. And for fun, if you like, come dressed in yesteryear's naturalist fashions.

Christmas Bird Count, 2010. Ric and Sandy Symmes and Winnie Wake on the path at Dingman Creek. The future beckons. (Photo by Dave Wake.)

URBAN BEAVERS: ENVIRONMENTAL ENGINEERS

Roslyn Moorhead and Carol Agocs

Stoney Creek rises in the agrarian landscape northeast of London, runs through Northridge and Stoneybrook subdivisions, and flows into the Thames River just south of Windermere Road. A paved path follows its course from Windermere Road north and east to Adelaide Street and beyond. Trees have been planted along the banks by the Friends of Stoney Creek and the City of London, and a narrow naturalized band of vegetation provides habitat for a number of riparian species. The Stoney Creek watershed has not been deemed an Environmentally Significant Area. The path is popular and heavily used by children looking for frogs and turtles, neighbours taking a stroll, walking a dog, or bicycling, and by birdwatchers and other nature lovers.

Beavers were occasionally seen near the path in previous years, but there was little evidence of Beaver activity even though dams had long existed in Stoney Creek farther north and east. It was a surprise in the fall of 2012 when two Beaver dams and a winter food cache were built suddenly, both within a few weeks and fairly close to each other just east of the Elmdale Footbridge. Trees planted by the Friends of Stoney Creek and by the City were felled by the Beavers to make the dams, and therefore the narrow strip of bush lovingly restored along the banks of the creek was considerably denuded. There were complaints by the residents about the Beaver activity and the large number of felled trees, some of which were mature.

One of the recently arrived residents of Stoney Creek. (Photo by Carol Agocs.)

Beavers are thriving and widespread in the Thames River and its tributaries. We love them until they chew down our trees with their bright orange teeth. Their dams flood our property and parks and we lobby to remove them to save our trees and prevent flooding. It's a love-hate relationship and residents are divided about what should be done. But new research increasingly shows that there are more reasons to love, than to hate, Beavers. We're beginning to realize Beavers preserve and create wetlands, lessen the effects of drought, regulate high water flows in streams during storms, and stabilize the water table.

In pre-settlement times, Beavers, whose population is estimated to have numbered anywhere between 60,000,000 and 400,000,000, had a pronounced effect on the landscape. They were active in nearly every headwater stream across North America. In Champlain's time, European explorers considered Beavers to be fish rather than mammals because of their aquatic habitat, and learned from the Algonquin to value them as food. They could eat Beaver on days when the Catholic Church forbade the eating of meat.

With the arrival of European traders and the rush to trap Beavers, their numbers plummeted. By the early part of the 20th century they were almost eradicated. The wetlands and small ponds created by their dams also gradually vanished. Biologist Sharon T. Brown states that the landscape shifted from being dominated by ponds, multiple channels and wetlands, to the familiar one today of a single wide channel with a strip of riparian vegetation on either side. Wetlands were also lost by the tilling of agricultural fields and greatly increased development. However, Beavers have made a remarkable comeback – a stunning conservation success story – and have adapted to life in landscapes shaped by humans leaving their own mark on our shared environment.

Frances Backhouse, in the *Canadian Geographic*, reports on two research teams studying the impact of Beavers on the environment and its hydrology in the last decade. Dr Cheri Westbrook, a hydrologist at the University of Saskatchewan, has measured how Beaver dams affect the water table. The purpose of a Beaver dam is to create a deep-water pond which won't freeze solid in the winter, providing the Beavers with an entrance to their lodge during the winter and hiding the entrance during the summer heat and dry periods. The pond also provides easy access to food sources and safety from predators during the birthing and rearing of kits. The ponds serve the Beavers well, but they also provide a rich habitat for a variety of species including Muskrats, turtles, amphibians, and wetland birds.

Beaver dams elevate and stabilize the water table by storing and then gradually releasing runoff water. Westbrook has found that in a wide valley bottom, water seeping into the area around a Beaver pond can travel up to two kilometres underground, raising the water table throughout the area. In the summer heat, the water level in areas with active Beaver ponds dropped approximately five centimetres; elsewhere from one to one and a half metres – a huge difference. Westbrook also noted that water in the Beaver ponds entered underground flow paths and rejoined the

A felled tree sits near a dam in Stoney Creek. (Photo by Carol Agocs.)

surface water a kilometre or two downstream. Water in groundwater systems moves much more slowly. Thus, the surface water flow downstream is lower, particularly after rains or spring thaws. Essentially, the incidence of low flows is increased, which mitigates against droughts.

Dr Glynnis Hood at the University of Alberta studies the effect of Beaver activity in an area just east of Edmonton. Her research findings support those of Dr Westbrook. Analyzing figures on Beaver populations, climate data, and aerial photography from 1948 to 2002, she and her team found that wetlands with active Beaver populations had nine times more water than wetlands without them. In the very dry year of 2002, some wetlands without Beavers became mere mud flats, whereas wetlands with them were visibly less parched. Her message: "Beavers have an overwhelming influence on wetland creation and maintenance and can mitigate the effects of drought."

Studies such as these indicate Beavers play an important role, particularly as climate change brings increasing droughts, storms, and flooding. But how can we manage urban Beavers? If Beaver dams impair the functioning of city infrastructure, such as stormwater management ponds and culverts – or cause a threat to property – management issues arise. There are at least three cities in Ontario which have explicit policies on Beaver control: Ottawa, Oakville, and Richmond Hill. All state that, if at all possible, animals and dams should be left alone and in peace. Other actions should be taken only if the Beavers' activities are a threat to safety or a nuisance which cannot be tolerated.

Policies broadly agree on the range of actions available if the Beaver activity cannot be tolerated. There are basically four options: dam destruction, trapping and killing, relocation, and prevention or exclusion techniques. Trapping and killing is strictly regulated by the Ontario Ministry of Natural Resources. It is expensive, special permits are needed, and the work can only be done by licensed trappers. Moreover, Beavers aren't the only victims. Large numbers of other creatures, such as Great Blue Herons, turtles, and River Otters are caught in the traps. Dam destruction is ineffective. Beavers will simply get busy and immediately rebuild, sometimes overnight. Relocation is regulated under the Fish and Wildlife Conservation Act and is also usually ineffective. The Beavers frequently move back. In addition, if the location is good, the removal of one Beaver family simply hangs out a vacancy sign for another to move in. Other concerns are transmission of disease among Beaver populations or the death of the Beavers who find themselves in unfamiliar territory. These three control measures are countenanced under these policies only when other measures have been exhausted, and dams or lodges are causing safety concerns or imperilling the functioning of stormwater management ponds or culverts. Implementing Beaver control requires working with the appropriate Ministry and abiding by its regulations.

The preferred policies are those that discourage Beavers from setting up home on a particular stream, or mitigating effects of the damming. Tree protection, tubular culvert protectors, water level control piping, a trapezoidal fence, and selective landscaping are the main techniques used. Tree protection is the easiest method. A single shrub or tree, or a small grove, is encircled with a securely fastened cage of approximately five by ten centimetres of galvanized wire mesh, almost 61 centimetres higher than the highest snow level, with a gap of at least 15 centimetres between the fence and the tree trunk. (Chicken wire attached to a tree doesn't last and may harm Beavers that try to chew it.) Selective landscaping means planting trees and shrubs that Beavers find unpalatable, encouraging them to move on to another site. Beavers prefer fast-growing species such as alder, aspen, birch, Eastern Cottonwood, and poplar, and are less fond of other deciduous species and conifers. Water level control pipes allow some water to pass through the dam, so only a small pond is created. Culvert protectors and trapezoidal fences both prevent dams being built near a culvert.

London does not have a formal Beaver management policy but handles complaints on a case by case basis. Whenever possible, Beavers are left alone, as is the recommendation in the other cities' policies. In the case of Stoney Creek, the two Beaver dams erected in October 2012 had openings which allowed some water through. The level of water behind the dam rose somewhat, but not to an alarming degree. Chicken wire was fastened around a few of the larger trees, affording some temporary tree protection. Two months later, a violent storm swept the dams away and deposited debris on another part of the bank. This debris has been cleared. In July, another dam was

An example of chicken wire attached to a tree. The wire doesn't last and may harm Beavers that try to chew it. (Photo by Jim Moorhead.)

started in about the same spot, but this structure remains small and incomplete, and was recently removed by heavy rain.

Some residents have complained about the loss of the trees. However, the complaints have lessened as Beaver activity has decreased and thick new growth has hidden many of the distinctive sharpened stumps the Beavers left behind. Have the Beavers left this section of Stoney Creek? Time will tell. A resident recently reported seeing an adult Beaver and kit swimming near the new dam site. In late summer, Stoney Creek's water level was low and its flow sluggish. But fall rains will raise the water level and turbulence. As Beavers generally begin dam construction in response to the sound of running water, we may see dam building resume. As Beavers also live in burrows in the banks of waterways, and tend to move on once they have felled many trees that they rely on for food (typically within 15 metres of the pond or waterway), other possibilities exist. A Beaver can fell 200 trees in a year, eating their bark and the tender twigs at the top, and using sticks for dam building. A Beaver family can quickly eat up their local food supply. Currently, Friends of Stoney Creek and the Upper Thames River Conservation Authority are identifying species of trees for replanting that will not be the Beavers' favourite food.

Water passes through the left side of this Stoney Creek Beaver dam. (Photo by Jim Moorhead.)

In natural waterways, change is constant. Beavers and Canadians share a deep national history and common habitat and need to learn to live together. In the relationship between Beavers and humans in urban settings, actions and reactions will be traded far into the future.

(Roslyn Moorhead is the Cardinal *Representative and Carol Agocs is the Co-Indoor Meetings Co-ordinator on the Board of Directors for Nature London. Both live close to Stoney Creek and frequently walk along the path beside it.)*

Bibliography

Allain, J. 2012, December 27. A Beaver's Tale. *Londoner*:27.

Backhouse, F. 2012. Rethinking the Beaver. *Canadian Geographic*, December:54-62.

Brown, S.T., Fouty, S. 2012, April. Beaver Wetlands: Effects upon Wildlife and Water. Cornwall-freenews.com.

Naughton, D. 2012. *The Natural History of Canadian Mammals*. Toronto: Canadian Museum of Nature and University of Toronto Press. P. 85-91.

Purdy, T. 2013. Beavers. Lecture in Nature London's Nature in the City series, Wolf Performance Hall, London, January 15.

Suzuki, D. 2013. The Beaver Whisperers. *The Nature of Things*, CBC Television, September 26.

Websites

Beaver Solutions: Working with nature. Southampton, MA. www.beaversolutions.com.

Beavers: Wetlands and wildlife. Dolgeville, NY. www.beaversww.org.

FEEDING RED-BELLIED WOODPECKERS

Unlike the more specialized Hairy and Downy woodpeckers, Red-bellies do little hammering and probing of tree bark with their bills. Instead, they winkle out insects hiding in bark crevices with their long, maneuverable tongues, which can be extended well beyond the end of the beak.

Acorns, Poison Ivy berries, insects, or seeds from feeders are all candidates for storage. Food is sometimes carried long distances before being pressed deep into natural crevices, the agile tongue used like a finger to manipulate items within the chosen cavity. The only other bird capable of routinely pilfering Red-bellied Woodpecker stores is the Pileated Woodpecker, which may learn to search for food sites recently worked over by Red-bellies. Perhaps to reduce such theft, Red-bellies sometimes conceal their cache with bits of nonedible vegetation.

Reference

Dunn, E.H.; Tessaglia-Hymes, D.L. 1999. *Birds at your Feeder: A Guide to Feeding Habits, Behaviour, Distribution, and Abundance.* New York: W.W. Norton and Company, Inc. 418 p.