



THE BULLETIN

April 2009 No. 480

2008-2009 EXECUTIVE

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Events calendar

Executive Meeting	Tuesday May 12, 2009. 7:30pm Location: Phyllis Rawlinson
Corn Roast	Saturday September 12, 2009 6:00pm
General Meeting	Thursday September 17, 2009. 7:30pm Speaker: TBA Topic: TBA Location: Richmond Hill Presbyterian Church
Botany Group	October 5, 2009. 12:30pm. Topic: TBA Location: TBA
Bird Group Meeting	Wednesday October 14, 2009. 7:30pm Topic: TBA Location: TBA

Check for more Events and Outings on Page 2

Hope

Since the start of the project to protect the Dunlap Observatory I've talked to visitors and residents, many telling me how inspirational this place was to them.

Several told me that the Dunlap inspired them to become scientists, one even an astronomer. One particular gentleman, told me he had terrible marks in mathematics and science in grade school, but after touring the Dunlap, he worked hard and completed University, something he never thought possible.

"We live in a society that is increasingly governed by science and technology, yet fewer and fewer young people long to go into science." -- Stephen Hawking, theoretical physicist, Cambridge University.

Dr. Chant loved to take his granddaughter for long walks around the Dunlap, show her plants and talk in scientific terms of its development. I asked if Dr. Chant was a naturalist, she didn't think so.

I think he was. He expressed this by working with Jessie Dunlap and turning the existing farmland into a now mature park and a wonderful sacred place. Let's hope for a bright future.



Marianne Yake, President, March 29, 2009



The Bulletin is published 9 times per year, from September to May inclusive, by the *Richmond Hill Naturalists*, and is mailed free to members. The Bulletin is the official publication of the Richmond Hill Naturalists, a non-profit organization the objectives of which are to stimulate public interest in natural history and to encourage the preservation of our natural areas.

Address Correspondence to: **Richmond Hill Naturalists, P.O. Box 32217, RPO Harding, Richmond Hill, ON, L4C 9S3**

Deadlines: The editor encourages submissions from any member on any topic related to nature or conservation, and in particular, any issue that might be of interest or concern to members of this club. e-mail: editor@rhnaturalists.ca **Deadlines are the 2nd Thursday of each month.**

Bulletin Advertisers have been selected because of their relevance to member interests.

Members are encouraged to patronize our advertisers and please mention that you saw their ad in our Bulletin.

Change of Address: Any change of email or street address should be sent to Mike Turk who prints the envelopes for the Bulletin mailing. See the Executive List for contact information.

Editor: Lloyd Helferty

Mailing Database: Mike Turk

Distribution: Athena Antiochos

MEMBERSHIP IN RHN

The *Membership Application Form*, is available at each General Meeting from Mike Turk, or in our club brochure, available from any executive member. You may also sign up or renew at <http://www.rhnaturalists.ca/membership/>

NEW MEMBERS:

Paul Brouse, Mirella Diodati, Ruth Matisko, Joandice and Anthony Marshall and Wayne Keezer

EVENTS FUTURE



- **Saturday April 18, 2009. Ontario Nature Regional Meeting** on at Kimount Community Centre. Includes a visit to the Altberg Wildlife Sanctuary Nature Reserve. Hosted by Eric Davis and the Kawaratha Field Naturalists. Contact Barbara Toll free at 1-800-440-2366 for details. Bring a lunch and some extra snacks for the hike.



- **Tuesday May 12, 2009. 7:30pm. Executive Meeting** at the Phyllis Rawlinson, Robert Holland Centre.



- **Saturday May 23, 2009. 8am. Introduction to Birding.** Plan to attend this outing to demonstrate your skills for budding local bird lovers. Bring binoculars and guide books. Meet at Mill Pond Park gazebo.



- **Sunday May 31, 2009. 12pm - 4pm. Annual Mill Pond Splash.** This eco nature festival takes place at Mill Pond Park in Richmond Hill.



- **Saturday September 12, 2009. 6pm. Corn Roast.** Details will be given in the May/June Bulletin.



- **Monday October 5, 2009. 12:30pm. The Botany Group** will hold its first Fall meeting. Details will be announced to group members.



- **Wednesday October 14, 2009. 7:30pm. Bird Group meeting.** Details to be announced to group members.




- **Thursday September 17, 2009. 7:30pm. General Meeting** – Speaker to be announced.

The meeting will take place at the Richmond Hill Presbyterian Church, Wallace Hall. 10066 Yonge St., North of Major Mackenzie Dr., West side. For info contact Marianne Yake at 905-883-3047, or visit www.RHNaturalists.ca.


Please note: Richmond Hill Naturalists welcomes anyone to volunteer as an outing leader.



- **Saturday April 18, 2009. 10am. Waterfowl Viewing Day** at the Tiny Marsh Interpretive Centre. Guided hikes from 10am until noon and 2:30pm. At 10:30am and 1pm there will be Children's Nature Workshops, enjoy a BBQ lunch at a very nominal cost at noon and at 1pm Suzanne Robinson, a Species at Risk Biologist with the Ontario Ministry of Natural Resources, will make a presentation on the local Piping Plover program. Admittance to the marsh property is free. For further information please contact us at 705-322-2200 or e-mail at mtm@csolve.net. Presented by [MTM Conservation Association](http://www.MTMConservationAssociation.com).


 - **Monday April 20, 2009. 4:30pm. *People Plan Richmond Hill.*** RH Council will be considering the 2009 Richmond Hill Strategic Plan, "A Plan for People, A Plan for Change". This presentation will report on comments on the Draft Strategic Plan, recommend a final plan for Council approval and introduce the first phase implementation plan and background document. Council Chambers, Municipal Offices, 225 East Beaver Creek Road.


 - **Wednesday, April 22, 2009. 10am - 3pm. *Earth Day Tree Planting*** at Newberry Park. Come and help Town staff restore this beautiful natural area in the Rouge Watershed! For more information call (905) 747-6465.


 - **Saturday April 25, 2009. *From the Ground Up*** Kick Off gathering. A Youth-focused event for Young Naturalist Leaders to discuss Ontario Nature's new youth programming. Meet and mingle with your peers from across the province Cawthra Mullock Nature Reserve, 18462 Bathurst Street, Newmarket. Please RSVP to Clare Mitchell at clarem@ontarionature.org no later than Friday April 17, 2009.


 - **Saturday April 25, 2009. 9:30am – 2pm. *Oak Ridges Community Clean Up Day.*** Help clean up the winter litter from our parks, wetlands and public areas. Bags and gloves provided. Beverages. Dress for the weather. Barbeque & prizes. To pre-register call 905-773-7415 or orfe@oakridgesfriendsoftheenvironment.ca.


 - **Sunday April 26, 2009. 9am. 20th annual "*10,000 Trees for the Rouge*"** annual tree planting event on north side of Donald Cousens Parkway just east of Ninth Line. Bring shovel, bucket, work gloves. Free lunch. Get more information by calling 416-282-8265 or visit www.rvcc.ca


 - **April 30 & May 1, 2009. Moraine For Life *Community Well-being Symposium*** at the Bethany Ranch Resort, City of Kawartha Lakes. This year's theme: Fostering Healthy Communities. 15 presentations from government, conservation, tourism and non-profit groups. Learn, network and meet new people. For information/registration: www.stormcoalition.org/symposium/


 - **Saturday May 2, 2009. 9:15am – noon. *Tree planting at the Glassco Property in King.*** We will create a windbreak of aspens and shrubs. Shovels, gloves, instructions, refreshments and lunch provided after the planting. 16542 12th Concession in King. Register by calling Bill McMartin, Manager, Oak Ridges Moraine Land Trust at 416 757 7795 before April 23 or use bill_mcmartin@yahoo.com. Limited attendance. First come, first served.

 - **Saturday May 9, 2009. 10am–12pm. *Stewardship Day*** at the Oak Ridges Corridor Park. Bird box building, mulching, tree planting, displays, refreshments, door prizes and a hike. Old Colony Rd. at the east end of the trail.

 - **Friday May 22 to Sunday May 31, 2009. Friends of MacGregor Point Park host the 12th annual *Huron Fringe Birding Festival.*** The Visitor Centre at MacGregor Point Provincial Park will function as the Festival headquarters. The festival celebrates an awareness and appreciation of MacGregor Point Provincial Park and nearby Bruce and Grey Counties. It promotes the excellent birding opportunities along the Lake Huron shoreline. Contact the Park at: (519) 389-6232 or www.friendsofmacgregor.org

 - **Friday to Sunday May 29-31, 2009. *Wings over Muskoka Nature and Arts Festival.*** An event to raise awareness of the decline of wildlife and wildlife habitat in the world. Proceeds go to Kids for Turtles Environmental Education. \$35 gets you a full "passport" to the festival. 705-765-1048 or 705-765-1900.

 - **Saturday May 30, 2009. *Ontario Nature's AGM,*** Bruce County, Southampton. In partnership with the Huron Fringe Birding Festival at MacGregor Point Provincial Park.

 - **Friday June 5 to Sunday June 7, 2009. 3rd Annual *Carden Nature Festival.*** Wildlife Seminars, Presentations and Great Food. For additional information www.CardenGuide.com/Festival or call (705) 326-1620 for a free brochure. Book now as many events sold out last year!

The Carden Plain is a naturalists paradise with more than 150 bird, 75 butterfly, 67 dragonfly and 200 moth species recorded, including rare alvar plants and the blandings turtle. Learn more and experience the diversity firsthand. If you plan to attend please help raise funds for the Richmond Hill Naturalists by providing our **Group Registration number: 1009**. This way if 12 or more people from our club attend we will receive a 25% rebate to further the work of our club. If you have any questions please contact Diana at 905-773-4199.

 - **Saturday and Sunday June 13 & 14, 2009. All day. *Windfall Ecology Festival.*** Speakers, demonstrations, performers, vendors, kids eco-activities. . www.windfallcentre.ca/index.php?st=2.

MEMBER SUBMISSIONS

Become a volunteer wasp-watcher!

In order to successfully manage and mitigate the Emerald Ash Borer (EAB), an invasive pest species, early detection tools are required. It has been found that monitoring wasps as they return to their nests with this beetle prey is an effective way to identify the presence of an EAB infestation. It has been shown that by simply observing the ground-nesting wasp, *Cerceris fumipennis*, as she provisions her nests, it is possible to quickly eradicate the EAB by moving some of Ontario's naturally established wasp colonies into areas of expected infestation where there are no known in-situ native wasp colonies.

Wasps have proven themselves unique in their ability to find EAB infestations yet most of the Province's natural colonies remain undiscovered and underutilized. They represent a pre-existing, currently operating, survey tool that simply needed to be found and observed.



No formal attempt has been made to systematically search for colonies of *C. fumipennis* across southern Ontario. Of the 19 known *C. fumipennis* colonies in Ontario, only three are closely monitored: Bronte Creek Provincial Park, Woodland Trails Scout Camp and Broadway Park in Windsor. Extra sets of eyes are sorely needed to both search for the colonies and monitor prey species at the known sites across this Province.

Work in New England with public staff and volunteers provided the model to expand on in Ontario. Support from naturalist clubs, individual volunteers, students and informed public staff enabled an impressive surveillance network to locate over 90 New England colonies in just two weeks. Referred to as **wasp watchers** the participants both searched for and monitored *C. fumipennis* colonies.



In Ontario volunteers and public staff would be informed, trained and helped to scour their local areas for colonies. As colonies are discovered and reported, devoted members within the program will adopt a local colony and be assisted to periodically monitor the sites through the summer months. For a volunteer or public staff member this may entail spending approximately an hour a week at their adopted colony, counting the number of active nests, taking a collection of prey, and watching out for EAB among them. A technician would work with the volunteer to empower and assist this colony monitoring and integrate the data back into entomological databases at the University of Guelph, CFIA, the MNR Natural Heritage Information Centre, and the Canadian National Collection [entomology].

Got to www.cerceris.info for more info or contact Tone Careless, Volunteer Co-ordinator, Wasp-watchers CFIA Cerceris project at a.careless@utoronto.ca or 416 482 6079.



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Trumpeter swans making a comeback in Ontario

Leslie Scrivener, [Toronto Star](http://www.torontostar.com)

All quiet on the waterfront – except at 2 p.m. on Burlington Bay. That's when the trumpeter swans touch down, knowing that food is on offer, and the air rings like a brass band gone bad.

Magnificent in flight, cantankerous on the ground, this indigenous species – the largest waterfowl in North America – had vanished from Ontario. They hadn't been seen here since 1886 when a hunter at Long Point on Lake Erie shot the last known trumpeter, migrating from the west.



Then along came Harry Lumsden. For nearly three decades the self-taught biologist, now 86 and retired from the Ministry of Natural Resources, with the help of dozens of volunteers has brought the swans back to Ontario. There are well over 1,000 trumpeters in the south-central part of the province now — that from none when he started the restoration program in 1982. Another victory: the population is self-sustaining.

Trumpeter swans have snowy white feathers and black beaks. In captivity they live up to 24 years; in the wild, about 17 years. Their Wingspan is about 2 metres and they weigh from 10 to 12 kilograms. Their eggs are about 11 centimetres long and they tend to mate for life but may separate and mate with others. Trumpeter swans adapt well to cold temperatures – their down can be 5 cm thick. They are able to tolerate extreme cold, even —30 C, as long as they have adequate food and open water in which to feed and bathe.

Scientists rely on public sightings of swans for their studies. If you see a trumpeter swan – many have bright yellow tags – email: theholtentwo@rogers.com

The orange-billed variety you see along Toronto's lakeshore are called mute swans. Native to Eurasia, mute swans were introduced to city parks and private estates in North America in the early 20th century.

Black-billed tundra swans, also native to North America, are smaller than trumpeters and have a yellow teardrop next to the eye.

NATURE NEWS

National park status sought for Rouge Valley

Toronto Star : <http://www.thestar.com/article/612964>

A 16,000-hectare national park should be created on Toronto's eastern boundary, stretching from Lake Ontario to the Oak Ridges Moraine, according to a coalition of politicians and environmentalists.

The proposed Rouge Valley National Park would cover a huge swath of York and Durham Regions and a northeast corner of Toronto, along the Rouge River and its tributaries, according to a plan being unveiled today.

Best of all, says Toronto Councillor Glenn De Baeremaeker, the park area is already in public hands: it's owned largely by the federal and provincial governments, or held by the Toronto and Region Conservation Authority. De Baeremaeker, who has long fought to protect the Rouge River, says turning the whole system into a federal park has several benefits.

"By designating it a national park, it's recognized as one of the most ecologically sensitive and important areas in all of Canada," he said. "And once it becomes a national park, it would be virtually impossible for the land to be sold off for development." "We've had a problem with poaching in the Rouge Park, and with illegal dumping. Right now, municipalities don't have the money to properly patrol the park," he said.

"With the federal presence, you would have federal parks staff on the ground protecting the park."

The area teems with wildlife, and First Nations artifacts dating back 10,000 years have been found in the area. Parks Canada has a mandate to protect unique natural areas, says Chong, and the Rouge River system is a prime example of Carolinian forest, a more southerly environment than the boreal forests that stretch across most of Canada. While most national parks exist in remote wilderness areas, the fact that the Rouge sits in the midst of Canada's biggest urban area is a huge benefit.



There are going to be close to 12 million Canadians living in the Greater Golden Horseshoe in 20 years, many of whom are new Canadians, many of whom are lower-income Canadians. Having a national park like this next to the greatest urban area in the country provides millions of Canadians access to this treasure.

An even better idea would be to create a national park linking the Oak Ridges Moraine to Lake Ontario through the Rouge River watershed. The [Adirondack Park](#) in northwest New York State is a system that we can aspire to. Although it doesn't officially reach the St. Lawrence river, Adirondack Park is connected to a large swath of green that goes right to the river. The Park appears to be part of a larger green biosystem that extends from Ontario all the way into Vermont. A national Rouge Valley Park could be integral to an even larger [International Project](#).

The [history of the Adirondack Park](#) is an interesting one. It was created in response to early environmental degradation and later recreational needs. With increased risk of flooding in Markham from the development of the Dunlap property, we should also be talking of park status for it. It is on a projection of the Oak Ridges Moraine and connected to it by the rail corridor along which deer and other animals move.

Nature's Pollinators -- What's All the BUZZ About?

By Elizah Leigh on AgricultureGuide.org April 1, 2009

In our fast-paced lives, we tend to get caught up in a never-ending task list of must-do, must-see business (or white noise, as the locals call it). We're always going, going, going and yet we never really arrive anywhere in particular. It's quite a shame, really, because the blur of our activities leaves us numb and completely oblivious to the phenomenally lusty dance of nature that occurs in the background of our lives, especially in the spring and summer months.



Oh, sure — now I have your attention – but the dance I'm referring to is specifically bee-bug-and-bird-related, so clear your mind of any...subversive thoughts.

There, that's better. Just focus on the sweet and wholesome exchange between a pollinator and its main floral squeeze. It is there that sticky stigma and pollen-studded stamens engage in a frenetic tango of hot-and-bothered reproduction thanks to the visitation of scores upon scores of probing pollinators. It seems pretty salacious, and yet it's merely what birds and bees do...along with ordinary house flies, bats, butterflies, moths, dragonflies and beetles, too. These flighty critters find the allure of a flower way too irresistible to pass up – from its intoxicating aroma and seductively syrupy nectar to its ripe, inviting color, the treasures within simply must be explored.



Hmmm, we're still in 'safe-for-family-audiences' mode and yet it seems to be getting a little hot in here. Just imagine how the pollinators feel. Some of the flowers that they visit are impossibly tiny — which makes for extremely close quarters — and yet somehow, in spite of their lack of elbow room, they manage to explore the core of each in order to drink to their hearts content (before moving along to their next crush). In other cases, busy little winged creatures are forced to compete with a whole lot of equally lusty floral suitors, causing them to practically trip over each other in the primal fulfillment of their conquest. Naturally, they're looking out for themselves – perhaps a bit selfishly, I might add – and yet the happy by-product of their love 'em and leave 'em ways is a magical thing called pollination.



Many of us recall the general pollination process dispensed by our grade school teachers four score and seven years ago (okay, perhaps far fewer years have passed for some of us), but we might be hard-pressed to recall the specifics today. Fortunately, your friendly, handy-dandy Agriculture Guide is here to save the day – hey, you never know if this information might enable you to win big money in Jeopardy, so please pay close attention.

- What is Pollination?

When pollinators visit flowers to collect nectar, their activity enables pollen to get transferred from the anthers to the stigma, which in turn stimulates fertilization in the flower and the development of its seeds.

- What is Self-Pollination?

A plant in this category is able to transfer pollen from its anthers to its stigma without any outside assistance because it has specially-designed flowers that discourage or prohibit typical pollination, such as peas which self-pollinate before their flowers actually open. Other typical self-pollinating crops include lettuce, tomatoes, escarole, beans, endive and several grain varieties such as oats, wheat, and barley.

- What is Cross-Pollination?

When all of the flowers on a plant are either exclusively male or exclusively female, cross-pollination must occur so that the female plant is able to produce fruit. So, in this case, pollen is transferred from the anther of a flower (of one plant) to the stigma of a flower (of another plant of the same species) via wind or insects. Plants that commonly cross-pollinate include holly, willow, ailanthus (tree of heaven), yew and bittersweet.

What is a Pollinator?

A creature that moves pollen from the anthers to the stigmas of flowers, thus triggering pollination, such as bees, butterflies, hummingbirds, moths, some flies, wasps, and nectar feeding bats (who happen to gravitate toward specific flowers that release the unmistakable scent of garlic, rotting vegetation, or fungus). Oh, but there are a few lesser-known and yet equally diligent pollinators – some that you may not expect, including wind, water, snails, small rodents and mammals, marsupials, and lemurs.



EVENTS PAST



FIELD TRIP REPORT for March 21, 2009

By Ron Fleming

Three members of the West Humber Naturalists and five Richmond Hill Naturalists joined me for an enjoyable excursion in search of spring migrants on the morning of March 21st. We started by hiking along the Oak Ridges Trail north of King City, heading east into the Seneca College property. After a brief interlude of balmy weather earlier in the week, temperatures had dropped and were now hovering just above 0 degrees Celsius. Ice crystals in the atmosphere were refracting the sun's light, forming a thin rainbow corona around it.

Although there was plenty of spring mud to squish through, there were still several stretches of ice and snow along the trail, especially in shadowed sections on the north side of any woodlots we passed. Not surprisingly, the lake in front of the old Eaton estate was also frozen, putting hopes of finding ducks and herons quickly to rest. Still, we did observe numerous Canada Geese in the fields and sky, as well as two tagged Trumpeter Swans and four passing Tundra Swans that were making their "toodling" calls as they flew northward.

Other birds of interest at the Seneca campus were a Pileated Woodpecker, several Song Sparrows, Cowbirds, and American Robins, a few passing Killdeer, some Horned Larks cavorting in the fields, and a Northern Shrike hunting in the grass, then singing raspily from the highest points of various trees and bushes. Male Red-winged Blackbirds were making their raucous calls from many a cattail and flashing their crimson epaulets proudly in the morning light. At several different points we were able to enjoy the distinctive "Zeee-ip!" calls of Pine Siskins. Eventually returning to where our cars were parked along Keele Street, several of us were also treated to the subtle sounds of a Brown Creeper singing from the shadows of a nearby pine stand.

Driving north from King City in a little convoy, we followed Keele Street past the rural hamlets of Snowball and Kettleby. Only moments after cresting the Oak Ridges moraine and enjoying a panoramic view, we observed three Wild Turkeys crossing the road in front of us. We had excellent looks at this trio of toms as they made their way westward to a hardwood bush. Before our little motorcade moved on, a few members of our group also spotted a coyote in the same field.

We turned east onto Hwy. 9 on the outskirts of Newmarket, then headed north again on Dufferin Street. Approaching Miller Sdrd I pulled over to listen for the distinctive call of Red-bellied Woodpeckers. This stretch of Dufferin Street north of 9 is a good place to look - and listen - for this species as at least one pair is resident in the vicinity. I walked back to each of the cars that had pulled onto the gravel shoulder and told them why we were stopping. Before I even got to the last car Charlene Denzel had spotted a male Red-bellied in an old maple tree on the west side of the road. Another one, presumably the female, was seen flying into the same tree only moments later.

In the open water of the canal that surrounds the vegetable fields south of Bradford we had excellent looks at no less than eight Hooded Merganser drakes and two hens. Our last stop was at Hochreiter Road near Holland Landing where we parked some of the cleaner cars and piled into the two roomiest vehicles. Squishing our way through fresh mud and melting snow, we made our way down this country lane to get a better look at the waterfowl that stop over here on their way north every spring. Although some of the largest stretches of meltwater had refrozen since mid-week, some of the waterfowl that had shown up on St. Patrick's Day were still lingering in open sections of water.

By scoping our way through the flocks, we added Northern Pintail (approximately 250), Ring-necked Duck (approx. 100), American Wigeon (6), Green-winged Teal (2), and Black Duck (12). Tundra Swans and seven other ducks species that had been present days before were not around when we were there but the ones noted above brought our day's bird list to 40 species - not bad for a March morning in York region.

Many thanks to Gene, Charlene, Theo, Ellie, Margaret, Barb, Tony and Joan for coming out on this early spring field trip. It was a lot of fun to get out and enjoy the vernal equinox.

On Tuesday March 24th the first public meeting for the **Oak Ridges Moraine Corridor Park** East of Bayview Avenue and North of Stouffville took place at the Elgin West Community Centre. Agenda items included a review of the draft management zones and a presentation on natural heritage topics.



Earth Hour a Great Success

Thanks to all our earth hour volunteers, members, residents and Dunlap Supporters who came out last night to have a tour of our solar system and a few short views between the clouds. About 60 - 80 enjoyed a cool but dry visit with Ian, Heide, Tom and Karen assisting with information on the sky and the Dunlap.

Karen fitted us all with glow necklaces or angel's halos that added quite a joyful spectacle to the evening. We hope that even if you weren't able to attend that you still turned off the lights in and around your home. Power consumption reduction this year was about 15% in the Toronto area. Last year it was only 8%.

GENERAL INTEREST

The Living Cosmos Society

The Universe is completely life-oriented, even to the extent that life governs the dynamics and stability of most aspects of the physical world.

We have all heard how our blind consumer-oriented ways -- now having a global impact -- are leading to an environmental disaster. Yet, there is an event(s) that will stop us before we reach that point, as has taken place a number of times in history. Why would anyone want to know about such a "bubble bursting" perspective?

Because problems don't go away by ignoring them, and there is much that can be done to prevent it.

Quantum mechanics and experiments performed within the past few decades have demonstrated that we are not passive spectators, but participators that shape the world around us. We possess the power to shape and control what takes place. We are on the verge of a scientific revolution, because in a number of situations theoretical perspectives are failing to explain many of the facts.

The awe-inspiring revelation is that the cosmos is fundamentally biological, and the Earth is interconnected with other objects in the Universe. By our collective actions, not only does a new social world emerge, but a new physical world materializes. Habitats and their life-forms have characteristics that parallel those of cells and their organelles. This is especially relevant when we consider the fact that organelles were once individual creatures living outside of cells (i.e., as revealed by the endosymbiotic theory), and cells, like habitats, are made up of symbiotic relationships.

Homeostatic mechanisms have to be at work in maintaining ocean salinity, global temperature, atmospheric composition, and more. They would no longer be comfortable for life if we only consider chemical equilibrium and thermodynamics. Homeostasis is a characteristic found only in living things.

On a planetary level, there are vital centers of activity that have organism-like qualities. Like other organisms, the biosphere has a hierarchy of components and processes. When we consider the interrelationships of life on Earth with the Earth as a planet, it must be concluded that there are centers in vital processes typical of living things.

A fundamentally biological Universe discloses that we need a new mind-set in our examination of the Universe and its origin. Biological, ethical and physical laws all blend together, revealing principles with which we can base our lifestyles upon, if we want a world with peace and plenty.

Life is essential to the stability and dynamics of the cosmos, and our planet Earth. Moreover, life is a dominant force and is an inevitable outcome of the laws of physics (e.g., the physical constants). We must be more biological (life-oriented) about all of our decisions. Positive influence on the physical world is in our hands.

What will be cultivated is a perfected world that touches upon the workings of the entire Universe itself, perfecting it too. Life has effects at the quantum and molecular levels that stabilize the physical world and change its physical character in such a way that there is literally a different physical world. These examples are only a few of the ways in which the preservation and nurturing of all life can make a difference. Preserving and nurturing life stabilizes the physical world in which we live. There is a myriad of examples where destroying life is a threat to our own existence, peace and true prosperity.

"Our task must be to free ourselves -- by widening our circle of compassion to embrace all living creatures and the whole of nature and its beauty." - Albert Einstein

<http://www.livingcosmos.com/>

AstroNats

The International Year of Astronomy

The IYA is a global effort initiated by the International Astronomical Union (IAU) and UNESCO to help the citizens of the world rediscover their place in the Universe through the day- and night-time sky, and thereby engage a personal sense of wonder and discovery. <http://www.astronomy2009.org>

The International Year of Astronomy 2009 is endorsed by the United Nations and the International Council of Science (ICSU). It is a global celebration of astronomy and its contributions to society and culture, highlighted by the 400th anniversary of the first use of an astronomical telescope by Galileo Galilei.

This effort is being spearheaded by the **Jodrell Bank Observatory and Centre for Astrophysics**, a leading radio astronomy facility owned by the University of Manchester.

Read the history of Jodrell Bank here: <http://www.jodrellbank.manchester.ac.uk/history/>

(Interestingly, the Jodrell setting includes a 35 acre Arboretum with various trails, natural habitats and an Environmental Discovery Centre that incorporates specialist artist sessions in an Environmental Studio!) September's theme is Planets and Moons. You will be able to see Jupiter in the sky in September.

The International Dark-Sky Association

http://www.ctio.noao.edu/light_pollution/iau50/



The International Dark-Sky Association works with lighting professionals to develop guidelines for outdoor lighting.

Session 1 of the IAU Commission 50 meeting in Prague, Czech Republic that took place on Wednesday, August 23rd, 2006 and included a presentation by John Percy of the University of Toronto entitled, "Education and Outreach for Dark Skies - 2006-2009"

In addition to protection of sites suitable for radio-astronomy, the Commission has responsibility for protecting sites for optical astronomy. Part of this IAU environmental activity involves controlling light pollution, and so a Working Group was set up to focus the [International Astronomical Union](#) (IAU) [Commission 50](#) efforts in this area.

The conclusions and proposals of the IAU/COSPAR/UN Special Environment Symposium "Preserving the Astronomical Sky" was that "**Member States should act to control pollution of the sky by light and other causes, for the benefit of energy conservation, the natural environment, night-time safety and comfort and the national economy, as well as science**". Canada has been a member since of the IAU 1920.

"Sort of a Nighttime Sierra Club"

BIRD OBSERVATIONS

Nature reawakens

By Gahbauer

When does spring really begin? In his reflections on nature (the book Wintergreen) Monte Hummel, president emeritus of WWF-Canada, says "*it all begins against the snows of late February when willows start to turn yellowy-ocher, the fine branches of birches show a tinge of dark-red, and dogwoods deepen to a rich burgundy.*"

The first Skunk-cabbage pokes up through the last remnants of winter snow, soon followed by Coltsfoot and Crocuses. Sharp-lobed Hepaticas tell us that it is early April. Our beautiful Trilliums come out in May, defining woodland flowers. Patches of Mayapple and blue Scilla appear on the edges of woodlots. Bloodroots with their distinctively lobed leaves poke through the leaf litter, and shiny Marsh-marigolds attract newly arriving insects, although they carry no nectar. By late May, most species of spring flowers have appeared. Some are in full flush, some early ones linger, and others build a bridge to summer. Wild Columbines nourish nectar-seeking spring insects and returning Rufous Hummingbirds – the only species that comes to Ontario. Trees and shrubs also blossom to reproduce.

And then there are the birds. A billion of them are winging their way northward to the sprawling boreal forest region which supports more birds than any other region on earth – not species, but sheer numbers.



Spring birding often focuses on the small, flashy songbirds that arrive in May: Indigo Buntings, Scarlet Tanagers, Rose-breasted Grosbeaks, and a variety of warblers. But these are the latecomers. The first migrants include waterfowl, such as Tundra Swans, ducks and geese, as well as some raptors – thousands of hawks on a peak day.

Spring marks the return of Eastern Phoebes, Eastern Towhees, Fox Sparrows, Snipe and Tree Swallows in April. Later migrants include Brown Thrashers, Pine and Palm Warblers, Chimney Swifts, Chipping Sparrows, Barn Swallows and Caspian Terns. Great Horned Owls have their young, hummingbirds and orioles arrive in early May, and Common Loons finish their northward migration. Purple Martin scouts arrive in mid-April, followed by the rest of the flock a little later. Cardinals begin nesting, White-throated Sparrows start calling, and Eastern Bluebirds breed.

From the Great Gray Owl, that rarely ventures beyond its boreal haunts, to the Blackpoll Warbler, that winters in the Amazon Basin, some 240 bird species breed up in Ontario's boreal region, making up an estimated 250 million breeding shorebirds, waterbirds, waterfowl and landbirds. For more than half of 89 Ontario species the boreal forest is their breeding ground. That makes them highly dependent on boreal ecosystems and habitats.

So why is so much of that area logged and mined? Only 8% of Canada's boreal forest is protected from development; in Ontario it's less than 5%, despite the provincial government's promise years ago to protect a minimum of 12%. And it is not only industrial interests that threaten the boreal region. It has now been discovered that lakes in the forest suffer from "aquatic osteoporosis," a chemical imbalance caused by declining calcium levels. We need to learn a lesson about squandering our natural capital.

Please submit Bird Observations using our electronic database, which can be found at: www.rhnaturalists.ca/bird_sightings_form.php

Submissions can be sent by e-mail to:

Sightings@rhnaturalists.ca or birds@rhnaturalists.ca

Written submissions can be sent by surface mail to:

Gene Denzel, 9 Idleswift Dr., Thornhill, ON L4J 1K8

Bird observations are viewable online or, if you prefer to receive a paper copy of this month's bird observations, contact Marianne Yake at 905-883-3047.

Of Trees and climate change

Trees help moderate our climate and make it more comfortable while at the same time improving air quality. They do this in two ways: by shading homes and buildings, and by releasing large quantities of moisture (and oxygen) through their leaves. This transpiration effect allows trees to act like giant air conditioners which, combined with the shelter that trees provide from wind, means that the thousands of trees throughout the green-belt area help reduce both our energy requirements and the pollution resulting from burning fossil fuels.

Forests and water storage areas help to absorb carbon dioxide and their interaction is vital for a healthy ecosystem. Natural areas like the Rouge headwaters in the Oak Ridges Moraine help store water and prevent flooding by first absorbing and then slowly releasing rain, snowmelt and runoff. One study found that a forest wetland can release up to half a million cubic metres per hectare per day into a region's groundwater supply. Another study found that less than half a hectare of wetland can store more than 6,000 cubic metres of floodwater; that's equal to about 38,000 full bathtubs of water. So, let's keep our forests and wetlands intact.

Two Russian scientists, Victor Gorshkov and Anastassia Makarieva of the St. Petersburg Nuclear Physics, have now published a revolutionary theory that turns modern meteorology on its head, positing that forests—and their capacity for condensation—are actually the main driver of winds rather than temperature. While this model has widespread implications for numerous sciences, none of them are larger than the importance of conserving forests, which are shown to be crucial to 'pumping' precipitation from one place to another. The theory explains, among other mysteries, why deforestation around coastal regions tends to lead to drying in the interior.

Read more at http://news.mongabay.com/2009/0401-hance_revolutionarytheory.html

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