



Amphibian Voice

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Wetland Ecology Concerns of Today *Wind Turbines and Species at Risk*

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Now, more than ever, issues such as preserving the natural environment and making "greener" choices are at the top of many communities' priority lists. When it comes to decisions about developing lands versus letting natural landscapes persist, the options are not always straight forward and the potential alternatives are not always obvious. The issue can become even more complex when a seemingly 'green' development initiative requires lands to be altered and appears to compete with other important aspects of the environment.

Such is the case with a proposal made by the Gilead Power Corporation, a wind energy company that submitted a 2011 tender to the government of Ontario to construct a 9-turbine wind energy farm at Ostrander Point in Prince Edward County, Ontario - an area known to provide habitat for a number of

species at risk animals, including the threatened Blanding's turtle.



Ostrander Point lies within the Ostrander Crown Land Block owned by the Ontario Ministry of Natural Resources (MNR). It is located just west of the Prince Edward Point National Wildlife Area, near the eastern end of Lake Ontario. The location proposed for the Ostrander Point Wind Energy Park is near the centre of the globally significant Prince Edward County South Shore Important Bird Area and only a few kilometres from the Prince Edward Point National Wildlife Area - the only National Wildlife Area specifically designated for its importance to migrating landbirds. This Important Bird Area (IBA) is designated as such because it is used by a

In this Issue

Wind Turbines & Species at Risk.....	pg 1-3
Turtles on the Road (Jennifer Howard)...	pg 4-5
Snakes Need Shelter Too.....	pg 6
Chytridiomycosis and Frogs.....	pg 7
From Tadpole to Frog - Book Review.....	pg 8

high concentration of landbirds during migration, as well as waterfowl.

In 2004 the MNR made a policy decision to make some of its Crown land assets available for "green energy" projects. Such a policy change was intended to make the way easier for small, independent electricity generating projects to take place in central and northern Ontario, where much of the land is owned by the Crown. The policy change also opened up the playing field for wind energy developers, but it was not accompanied by efforts to systematically identify areas where wind energy projects should be excluded, as is currently the case with offshore turbines.

Organizations such as Nature Canada, along with Ontario Nature and the Prince Edward County Field Naturalists, have publicly opposed Gilead's application for a permit under Ontario's Endangered Species Act that would allow Gilead to "kill, harm or harass" endangered species like the Blanding's turtle in Ostrander Point to pave the way for a wind energy plant. Those against the project's development believe that Gilead's Ostrander Point Wind Energy Park has the potential to "kill high numbers of migratory birds, permanently damage a significant breeding bird community, damage the wetland habitat of Blanding's turtles, and jeopardize the government's responsibility for protecting Ontario's biodiversity."

Ted Cheskey, Nature Canada's manager of bird conservation has released a statement on the issue, declaring that, "Nature Canada along with its partners Ontario Nature and the Prince Edward County Field Naturalists agree climate change poses one of the greatest risks to biodiversity. We fully support the Ontario government's intention to expand the use of clean and renewable sources of energy through its Green Energy and Green Economy

Act. However, in responding to climate change, we must not sacrifice biodiversity and significant habitats. Protecting wildlife, threatened species and their habitat is vitally important if we are to buffer the effects of climate change and provide options for wildlife that must cope with predicted changes."

There are many concerns for the animals that live in the significant and diverse habitats on Ostrander Point. The Blanding's turtle is threatened because of high levels of nest predation by skunks, foxes and coyotes, as well as increased traffic on roadways that intersect important habitats. Because Blanding's turtles are attracted to gravel roadsides as nest sites, there is concern that roads built to facilitate construction of a wind farm will aggravate the risk of road mortality in the area substantially.



Predation of nests is always a factor that influences the health of Blanding's turtle populations. If predators within the new wind farm area (i.e. coyotes, red foxes, raccoons) use the new access roads to navigate through the habitat, Blanding's turtles

that lay their eggs in newly tilled soils along the edges of the access roads may be at higher risk of nest predation. Potential direct impacts may also arise from increased access and awareness of the local Blanding's turtle population, resulting in hunting and poaching for the pet trade.

There are organizations such as *Friends of the Wind* and community members that are in support of this project and they view green energy, specifically in the form of wind turbines, as a positive initiative. It could be argued that the Blanding's turtle population will adapt and even benefit from the restricted access gravel roads that will be built if the project proceeds. The roads that the turbines require for maintenance are restricted from public use and it therefore could potentially

provide safer alternatives to nesting sites with public access, more pets, etc.



The positive side to recognizing all of these concerns and potential risks is that decisions can be made to change aspects of the project so that implementation can possibly be less invasive. For example, proposed construction windows have already been

adjusted to avoid adverse impacts to species during the active season.

Some other concerns have been addressed and 'reasonable' alternatives have been considered to reduce or eliminate impacts to the Whip-poor-will and its habitat and Blanding's turtles. Gilead Power Corporation has stated that "The Ostrander Point Wind Energy Park was designed to be sensitive to the wildlife of the area. That means that [Gilead] will construct at times least disruptive to existing wildlife. Once operational, the Ostrander Point Facility will employ some of the most aggressive mitigation measures in North America to protect local and migratory species."

The revised proposal and approval of this project is still in progress. Environmental Assessments are currently being conducted to determine potential impacts and solutions.

* The above article was researched and written using multiple sources. Some sources include Gilead Power, Nature Canada, and Wind Concerns Ontario. For a complete list of sources please contact Adopt-A-Pond at aap@torontozoo.ca.

The Loblaw COMPANIES LIMITED Great Canadian Shoreline Clean-Up

On September 23rd, 2011 staff and volunteers from the Toronto Zoo and community members living near Rouge Park participated in the Loblaw Great Canadian Shoreline Cleanup, collecting litter and debris from the West Rouge Marshes and the Lake Ontario shoreline. Shoreline litter threatens wildlife and harms the health of ecosystems. Every September Canadians from across the country head to their local shorelines to make a positive impact in their community. Adopt-A-Pond coordinates a clean-up every year and you can create one in your community too! For more information on how to get involved visit: <http://shorelinecleanup.ca/>



Carol Fysh, volunteer, cleaning the shoreline of the Rouge Marshes



Adopt-A-Pond staff with Bobbers the Blanding's Turtle, one of the many species that lives in the Rouge Marshes

Turtles on the Road

Jennifer Howard – Innisfil, ON

I am a naturalist/photographer and the VP of The Six Mile Lake Conservationist Club. In my position I do hands on work combined with educational initiatives in the Six Mile Lake area. Turtles are an important focus in our club's work. Ontario has 8 native species of turtles and 7 of them are listed as species at risk.

Turtles are amazing little creatures. Something that is so spectacular about them is their ability to survive at the bottom of freezing cold ponds during the winter months. A turtle's brain "shuts down" its body during hibernation, but is still aware of its surroundings. This same characteristic becomes a downfall if ever a turtle is struck on a road because the brain can still recognize pain for a short while after the heart has stopped. Turtles sometimes survive being hit by a car and that's why it is so important not to ignore a turtle when you see it on the road, even if it looks dead.

My husband, Mark, saw a turtle on the side of the road one day that had been hit by a car. The turtle was lying on its back unable to right itself because of its injuries. Most likely the turtle would have died, not due to its injuries, but from starvation and/or predation. By being stuck on its back the turtle was not able to eat and became an easy prey target for animals such as raccoons.

I have seen many great Blue Herons eat smaller turtles and I have even found an empty turtle shell in a Great Horned Owl's nest. Turtles have many predators, and like everything else in nature, they are an important part of the food chain. But for this particular turtle, it was not yet time.

When Mark brought the injured turtle home we immediately made a call to the Kawartha Turtle Trauma Centre (K TTC). The centre operates as a hospital for injured wild turtles with help from dedicated staff and volunteers.

Talking to the K TTC, we decided that the turtle's condition was stable enough to keep her at our house overnight. She spent the night in a container in our bathtub cradled softly on a warm, moist towel. The container was surrounded by a big, fluffy fleece blanket so that it was raised off of the cold tub. She did well over night and I was greeted by an alert and perky turtle in the morning. With the help of my good friend Fran, we were off by 6:30 am the next morning to the K TTC.



Sue Carstairs (right) and Jennifer Howard examining the rescued Painted turtle at K TTC.

The turtle was admitted by Olivia Vandersaden, and Sue Carstairs, the medical director, took over from there. They gave the turtle a quick examination and found a crack in her shell that I had missed; this one would take longer to heal. She had a chunk missing from her carapace and a crack under the same area on her plastron. She also suffered from a long fracture on her side. Sue predicted she would need to stay at K TTC until spring 2012, but that afterwards she can return to the natural habitat where she was found.

Ontario Turtle Tally and Frogwatch Appreciation Day is *November 19, 2011*. We look forward to having our participants join us for a day filled with information seminars and great stories!!





The injury to the turtle's carapace



The injury to the turtle's plastron

You too can help save a turtle. If you see a turtle on a road please take the time to move the turtle away from danger. Make yourself a good "turtle kit" to keep in your car. Some important items to have in your kit would be rubber gloves or a shovel to help you move or pick up the turtle, a mid-sized tupperware container with holes punched in the lid or a light towel to throw over the turtle to keep it calm if it needs to be transported to a rehabilitation facility. It is very important to ALWAYS move a turtle across the road in the same direction that it was intending to go. This ensures that the turtle is not thrown off its journey, becoming disoriented and possibly ending up back on the road. Another tip is to keep a notepad and pen in your kit so you can record information about where you found the turtle and its condition. This information is useful and will help make certain that the turtle, when recovered, is returned to its proper habitat. Another great thing that you can do to help turtles is to report your sightings to Ontario Turtle Tally. Ontario Turtle Tally is a program run through Adopt-A-Pond at Toronto Zoo. You can visit the website for more information and help contribute to their great efforts for turtle and wetland conservation:

www.torontozoo.com/AdoptAPond

Mainly female turtles are brought to the K TTC. This is because females like to lay their nests in the soft, well-drained gravel shoulders of roads, and this puts them at risk for being

struck by a vehicle. However, males are also struck during seasonal migrations and are equally vulnerable to road mortality in areas where roads intersect wetlands. It is up to us to help protect turtles on roads. A great initiative being adopted by some communities is the installation of turtle crossing signs. If you see a turtle crossing sign along the side of the road, please respect it. The sign is there because that location is a known "hotspot" for turtle crossings. Slow down and be a little more cautious in these areas. Our female turtle was lucky, but many others aren't as fortunate.

Mark and I are incredibly grateful to the K TTC. They do amazing work. They have extremely dedicated volunteers and staff, and they are very important for the survival of our native turtle populations. The K TTC even suggests that people deliver dead turtles to the centre because they may contain eggs that the centre can incubate and save. All of the volunteers and veterinarians that work at the K TTC give 110% when helping the turtles that come into their care. The centre is always in need of donations, especially this year. Unfortunately, much needed funding did not come through despite the fact that they have already treated more than 140 turtles in 2011. If you would like to help; become a member, buy a t-shirt or donate anything you can. To learn more visit: www.kawarthaturtle.org. For turtles in need of help please contact the Centre directly at (705) 741-5000.



The "Lucky Girl"

Note: As of today the turtle we rescued is still at the K TTC. She has since laid 8 eggs. Mama and babies are doing very well. Not just 1 turtle life saved, but 9!

Snakes Need Shelter Too!

Rava Lee, Snake Biologist, Adopt-A-Pond

In urban Ontario, there's not much room to grow. That's especially true for our struggling snake populations. As development brings them in closer contact with humans, many are suffering from misinformed persecution and habitat fragmentation.

Ontario is extremely lucky to have seventeen fascinating species of snakes. They come in an array of sizes, colours and patterns, and they all share the same shy and mellow temperament. Snakes are essential in local ecology; they balance pest populations like rodents and insects and are a food source for other predators.

By providing appropriate habitat on your property you're helping to compensate for the loss of habitat that has devastated snake populations for over 100 years. Be sure to read up on which snakes live in your area to learn what habitat is most suitable for the species you're interested in attracting.

Some snakes like the Blue Racer and Queen snake only live in one isolated region in Ontario, and are rarely found in more urbanized areas. If you have a lake or stream on your property you're probably already attracting Northern Water snakes. Adding a buffer of cattails and marsh plants, however, can provide preferred habitat for snakes like the Eastern Ribbon snake, Eastern Fox snake and Black Rat snake, who like to supplement their diet of rodents with frogs. If you live in a region with Black Rat snakes, try looking up in the trees. These snakes are excellent climbers and often climb trees in search of birds or eggs.

One of the most effective ways to attract snakes is to keep your grass long. Snakes hide and hunt in taller grass; mowed lawns do not afford snakes protection from predators and they also provide no prey. Starting a stone garden or adding rocky outcrops will also

attract snakes for basking and protection. Snakes like to hide under wooden boards, in leaf litter and debris, and in barns and older buildings with stone foundations.



Milksnake (*Lampropeltis triangulum*)

If you find a snake, remember not to pick it up or harass it. Snakes are wild animals and may inadvertently be injured by inexperienced hands. They will also defend themselves if they feel cornered. Snakes always prefer to flee rather than bite, but will bite if they feel threatened, so make sure to give your new friends space and respect.

What we are doing:

One species the Toronto Zoo and Rouge Park are especially concerned with is the Eastern Milksnake. A species with bright iridescent scales, large eyes and a flickering pink tongue, these snakes have been the victim of increasing road casualties. In addition, because of their patterning they are often mistaken for the Massasauga Rattlesnake, though the Massasauga is only found in a few isolated populations throughout Ontario. Milksnakes are not poisonous and are shy by nature, active mostly during dawn and dusk. In 2011, the Adopt-a-Pond Programme initiated a Milksnake survey project in Rouge Park in response to a number of snakes sighted dead on roads. The project will continue in 2012, and will help to understand Milksnake distribution and movement patterns in the Park.

Chytridiomycosis and Frogs

Jody Marks

Conservation Assistant, Adopt-A-Pond

What is it?

- In 1999 a new species of chytrid fungus was described that infects the skin of amphibians. It was named *Batrachochytrium dendrobatidis* or "Bd" for short.
- Chytridiomycosis is the disease that occurs when an amphibian is infected with large numbers of the *Bd* fungus.

How does it kill amphibians?

Chytridiomycosis causes an infection inside of the cells of the outer skin layers and causes the skin to become very thick.

- These changes in the skin are deadly to amphibians because they "drink" water and absorb important salts (electrolytes) through their skin in addition to what they take in through their mouth.
- Abnormal electrolyte levels cause the heart to stop beating and can cause death of the animal.
- Amphibians use their skin to breathe. Skin changes due to chytridiomycosis can interfere with this function, causing suffocation.



Panama's Golden frog suffered extreme population losses possibly because of Chytridiomycosis

<http://www.costaricapages.com>

How does it spread?

- *Bd* can spread from place to place through water, moist or wet materials or on the skin of infected amphibians.
- In the natural environment *Bd* can move on people's boots or equipment

or on birds and invertebrates that travel between watersheds.

- Many amphibians that are infected with *Bd* are resistant to the disease chytridiomycosis, but they are still capable of spreading *Bd* from one location to another.
- Amphibians can also move *Bd* to new locations as a result of trade in bait shops or pet stores, or potentially by the release of captive amphibians to the wild.



The Mountain Yellow-legged frog species is endangered by chytridiomycosis

<http://www.bloomberg.com>

What are the signs of chytridiomycosis?

- Some of the most common signs are reddened or otherwise discolored skin, excessive shedding of skin, abnormal postures, unnatural behaviors, or seizures.
- Many of these signs are said to be "non-specific" and many different amphibian diseases have signs that overlap with those of chytridiomycosis. For these reasons it is not possible to diagnose chytridiomycosis with the naked eye. Laboratory testing is required.

What can you do?

- It is not currently possible to eradicate chytrid fungus from wild amphibian populations. It is also unfeasible to protect a natural wilderness area prior to the arrival of chytrid fungus.
- We recommend that you do not purchase amphibians unless you are certain they were captive-bred in disease-free conditions and raised locally.
- It is very important not to move frogs or tadpoles from one habitat area to another.

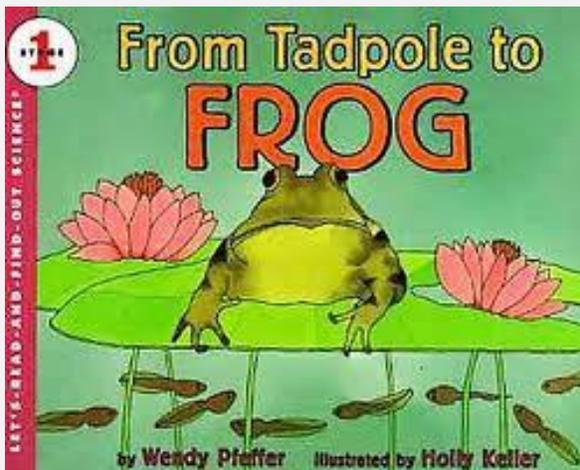
From Tadpole to Frog

- Book Review -

Written by: Wendy Pfeffer
Illustrated by: Holly Keller
Reviewed by: Jody Marks, Conservation
Assistant, Adopt-A-Pond

Wendy Pfeffer is the author of several titles in the Let's-Read-and-Find-Out Science series. In this book she describes the incredible metamorphosis from tiny, jellylike egg, to little fishy tadpole, to great big bullfrog. Wendy has written this story in a way that it is scientifically correct but fun and understandable for children as young as age 5. The book captivates and holds the attention of the reader throughout its 32 pages due, in large part, to the beautiful illustrations drawn by Holly Keller.

Holly Keller is the illustrator of more than thirty-five books for young children. In this book she has created the conventional frog pond; we observe life in it through the seasons as the tadpoles grow legs and lungs and eventually hop onto land as fully grown bullfrogs. The illustrations compliment the text very effectively, helping to explain the process of metamorphosis and demonstrating the frenzy of activity in a pond above and below the water level during each stage of a frog's life.



<http://www.harpercollinschildrens.com>

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Send in your stories, drawings and photographs to the address below and we will happily include them in future issues.

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- Rouge Park Natural Heritage Fund

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We welcome support of our programme!
Please make cheques payable to "Toronto Zoo" and send them to the following address. Thank you!

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