

LOCATION, LOCATION, LOCATION ... MIGRATION, MIGRATION, MIGRATION

As a biologist-photographer who specializes in the nature spectacles of Canada, I've seen my fair share of wildlife wonders over the years. Some of the highlights that immediately come to mind include the massive seabird colonies and humpback whales of Newfoundland; the dazzling gannet colony of Ile Bonaventure in Quebec; butting bighorns, bugling elk and grizzlies in the Rockies; blizzards of tens of thousands of snow geese in British Columbia, the Prairie Provinces and Quebec; sage grouse dancing in southern Alberta; wolf howling and viewing in Ontario's Algonquin Park; polar bears and belugas in Churchill, Manitoba; tens of thousands of crooning sandhill cranes in flight in Saskatchewan ... the list goes on and on.

When the world renowned American Museum of Natural History in New York came out with its first wildlife calendar in the early '90s, I was the only Canadian represented – with an attention-grabbing photo of a puffin from New Brunswick's Machias Seal Island, its mouth crammed full of herring. Of all my thrilling encounters at wildlife hotspots over the years, both in Canada and abroad, my favourite memory is that of 45 killer whales visiting a rubbing beach off Vancouver Island – three of the black-and-white giants lined up sideways abreast of each other underwater, sliding through pebbles a mere 25 feet away (while a surfacing humpback “trumpeted” not far offshore). To put it mildly, I've experienced quite a few outstanding wildlife events in my time.

Even so, having spent my teen years and early twenties in Canada's Deep South -- southwestern Ontario's Essex County -- I have to admit that the world famous migrations of that province rank right up there with the best of the best. What naturalist would not be impressed with the kaleidoscope of colour and sound in May when spring warbler migration is at its peak? Or tickled pink in March when the continent's entire eastern population of tundra swans drops into the marshes and cornfields of the province after flying nonstop from the Atlantic seaboard? In autumn, the swans and warblers are upstaged by tens of thousands of hawks flying south to distant wintering grounds as far afield as Central and South America.



Up until my near-religious experience with the beach-rubbing orcas, the precious memory of seeing 38,000 broadwinged hawks migrating over the north shore of Lake Erie at Holiday Beach Conservation Area on September 16, 1986 held sway as my all-time favourite, due to the rarity of the event as well as the sheer spectacle. At times on that glorious day, three-tiered “kettles” of spiralling broadwings, totalling more than 1,000 birds, were in the air overhead. Mind boggling! As fellow enthusiast “Fran” of Buffalo, New York, a veteran hawkwatcher in her sixties who had been

to numerous spring and fall hawkwatches around the U.S. Northeast and Canada, excitedly exclaimed: “I've waited all my life to see this – and I've birded a lot!”

CANADA'S GREATEST MIGRATION CORRIDOR

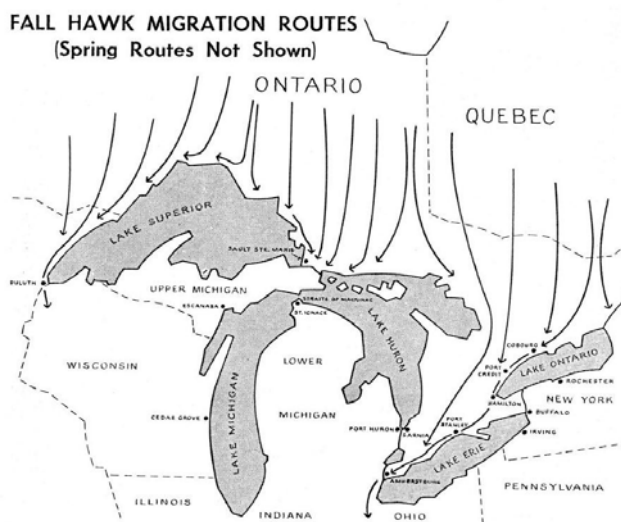
So what makes Ontario such a great place to see spectacular concentrations of aerial migrants like those hawks and warblers? As the old real estate mantra goes, it's *location, location, location*. The

southern half of the province holds a geographic advantage – the formidable barrier formed by the Great Lakes -- which makes it one of the greatest migration corridors on the planet. Since it's dangerous business flying over immense watery expanses, especially if unexpected storm fronts should move in, most winged travellers wisely follow the lengthy shorelines until a safe crossing point or exit can be found.

As the crow flies, it's 1300 kilometres (800 miles) from the extreme western tip of Lake Superior to the far northeastern end of Lake Ontario. Millions and millions of migrants of all stripes and sizes – birds, bats, monarch butterflies, dragonflies, wasps, ladybugs and other insects -- either veer around the outer edges of that barrier (at Duluth, Minnesota, or east of Watertown, N.Y., for example), cross near the halfway mark of Sault Ste. Marie, hopscotch across the water using the Manitoulin Island-Bruce Peninsula route or flow



into the geographic funnel of southwestern Ontario often banking up and concentrating against Lakes Ontario, Huron or Erie enroute – depending on wind direction and force. Each fall, a good many of the migrants pouring south out of the vast breeding grounds of northern Ontario, Quebec, Labrador and even portions of the Eastern Arctic Islands end up in that confining migratory funnel. At its narrowest point, between Lake St. Clair and Lake Erie near Tilbury, Ontario, the funnel is only 32 kilometres (20 miles) wide. Since many hawks, like broadwings, must hitch energy-saving rides upward on thermals, or air currents arising from warm ground surfaces, then glide onward for miles until the next aerial elevator is reached, crossing a large body of water is to be avoided at all costs. That's why so many migrating hawks and other raptors, or birds of prey, are seen around the shores of the Great Lakes compared to other locations across the continent.



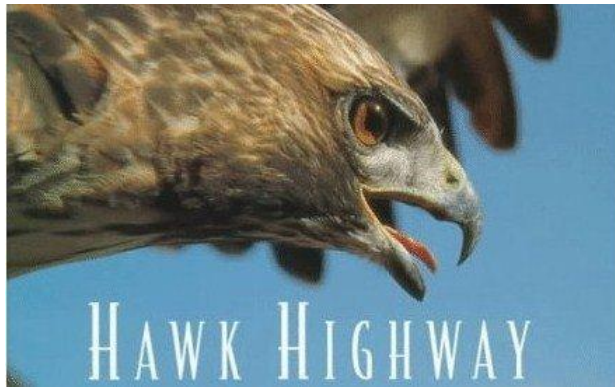
The highest migration counts in Canada and most of the continent are tallied in and around Ontario's southwest with the Holiday Beach Conservation Area and adjoining Big Creek marsh near Amherstburg – at the funnel's end -- clocking up as many as 750,000 migrant birds during the fall season, 50% of which may be blue jays and 25% raptors. Some of the single day records from here are astounding: 95,499 broadwinged hawks on September 15, 1984; 264,410 blue jays on September 28, 2001; 614 great blue herons August 16, 1999; 195 great egrets September 1, 1996; 5 whooping cranes November 7, 2004; 604 ruby-throated hummingbirds September 13, 1997; 5884+ monarch butterflies September 15, 1997 and 2000+ common green darner dragonflies

during a three-hour count on September 21, 1999¹. Point Pelee National Park, nearby, shines brightly

¹ www.hbmo.org

during spring warbler migration when visitors from around the world partake in an avian love-in unmatched anywhere else in Canada, but also holds its own in autumn with the amazing gatherings of migrating monarch butterflies. At daybreak on September 17, 1996, on Point Pelee's East Beach, a bleary-eyed group of birders in search of a rarity came across a once-in-a-lifetime vision: a massive flight of monarch butterflies that filled the entire horizon and numbered around the half-million mark. A spectacle to be sure! Not surprisingly, the park was designated as an International Monarch Butterfly Reserve about the same time. Based on those bountiful butterflies, birds and other natural attractions, in June 2007, Explore magazine ranked Point Pelee third on a list of the country's best parks for wildlife (after Banff and in front of Wood Buffalo National Park).

The late great birding dean, Roger Tory Peterson, placed Pelee near the very top of his list of dozen birding hotspots on the continent and that expert opinion continues to be supported by many others². Other lesser-known points and peninsulas along the province's shores offer similar concentrated natural treasures during migration periods. For that reason, among others, Ontario was ranked fifth overall in the top ten best "states" for birding hotspots in that Top 50 link.



Magnitude of autumn raptor migration at selected 'watchesites'.
(source: HawkWatch International)



Source of migration magnitude map: Bird Fatalities at Wind Energy Facilities: An Overview (2006) by Carl G. Thelander.

² www.birder.com/birding/hotspots/index.html (click link on the left for the Top 50) + www.macweb.org/Projects/DiscoverOurWildSide/BywaysToFlyways.htm



MIGRANTS, IWTs AND TOURISM DOLLARS

Clearly, the shorelines of Ontario's Great Lakes are altars upon which naturalists worship. On peak days, it's possible to see more hawks, monarch butterflies and other migrants than almost anywhere else in North America. In very few other locations on earth can you find these ideal conditions to watch the miracle of migration unfold. Yet a threat looms large on the horizon which could unravel that miracle in the coming decades: the Industrial Wind Turbine (IWT).

These gigantic turbines are not the picturesque windmills of old which melded into the landscape. They are 400-foot-high monstrosities with blades that sweep an area the size of a football field. Although they appear to move slowly, the tips of those giant blades rotate at 150 to 200 mph. With thousands of IWTs slated to be installed along the shores of the lower Great Lakes – both onshore and offshore – the eons-old migration routes are no longer safe. To date, there has been no comprehensive planning on the part of the Ontario or federal governments regarding the cumulative effect of this form of industrial development. Normal caution has literally been thrown to the wind in the rush to appease those who think wind turbines are the solution to global warming. Unfortunately, as all independent evidence emphatically points out, they most certainly are not the answer.

Those who view the loss of a few “dickie birds” and other migrants due to turbines as no big deal should read *The Importance of Nature to Canadians* published by Environment Canada: In 1996, Canadians spent 11 billion dollars pursuing nature-related activities. Each spring, the local economy around Point Pelee National Park – the number one tourism draw in southwestern Ontario -- is pumped with 12 to 14 million birding dollars. That's hardly chump change. Remember Fran of Buffalo,

N.Y. who visited Holiday Beach in search of its legendary broadwing flight? She and other border-crossing Americans drop many welcome dollars into the economy, too.

U.S. birders spend an astounding \$36 billion in their own country each year but also spread the wealth northward. In the week prior to our meeting, Fran had been to the fabled Hawk Cliff³ on Lake Erie near Port Stanley, Ontario and rated it as being better than the much touted Hawk Mountain of Pennsylvania -- and likely passed that opinion along when she got home. After her spectacular adventure at Holiday Beach, she was heading west to Duluth. How many dollars did she contribute to local economies along *her* migratory path? Americans are an overlooked gift horse: they, alone, add 705 million, nature-related dollars to the Canadian economy each year.



Yes, it's true that a small number of gullible/greedy farmers leasing out land for IWTs and short-sighted municipalities reaping wind energy tax revenues will benefit economically from the industrialization and marginalization of their regions – but never forget that there are many tourism dollars at risk that more than offset that blood money. In the coming years, the easily gathered “30 pieces of silver” from wind

³ www.ezlink.ca/~thebrowns/HawkCliff/

energy developers may come with a steep price both economically and environmentally.

Will Fran and other U.S. wildlife enthusiasts be tempted to cross the border and drop their tourist dollars in the province if all they see for hundreds of kilometres along Lake Erie/Huron/Ontario/St. Clair are endless strings of industrial towers with twirling blades, both onshore and off? Will birders and butterfly watchers from Toronto tire of the same industrial scenery and skip those trips to Point Pelee for something closer and less cluttered? When it comes to tourism dollars, extreme caution needs to be taken regarding the cumulative effects of multiple wind farms as demonstrated in the U.K. recently⁴.

Considering that so many of the IWTs and associated service roads, transmission lines and substations are going in or near Category 4 “highly sensitive environmental areas”, why is it that no full environmental assessment review has been undertaken for any wind energy project in the province? What are the government and industry trying to hide? The answer: Plenty.

To date, all that’s been required before the government rubber-stamps a deal is a quickie environmental screening report – conducted, of course, by the very companies that are doing the projects. Talk about the fox guarding the hen house. As most concerned naturalists eventually discover, you can’t trust anyone: “We at the Ripley hawk watch [on the U.S. side of Lake Erie] have learned that we cannot depend upon developers, the federal government, state government or local government to make the right decisions when raptors and other important natural resources are involved.⁵”

MORE AND ONWARDS: ODE TO GREAT LAKE VIEWSCAPES



Not content with stringing hundreds/thousands of giant swirling IWTs as gauntlets along the migration super-highways onshore, the wind energy companies have set their sights on the pristine waters offshore as well. Their motto? “More and onwards!” (Henceforth, let’s shorten that and tag them as “more-ons”.) Making matters worse, guess who controls the lease rights to the lakebeds where those more-ons want to dump their disruptive IWTs? Yes, the bungling bureaucrats and politicians in the provincial government. Break out the rubber stamps! Doesn’t that give you a warm, fuzzy feeling all over?

Taking a look at the maps at the back of the 2008 Helix Energy report, *Analysis of Future Offshore Wind Farm Development in Ontario*⁶ it’s obvious that the extinction of uncluttered vistas over some of the Great Lakes is a distinct possibility. Like the once-abundant passenger pigeon, those taken-for-granted views could be gone in the coming decades, especially along the shores of Lake Erie. Although the report plainly states that national parks and sensitive environmental areas are to be avoided, there is

⁴ www.thesouthernreporter.co.uk/news/Our-hills-are-alive-with.5774155.jp.

⁵ www.hmana.org/articles (Turbine article) www.hmana.org/hms.php (Fall 2007 pages 5-7)

⁶ www.savethebluffs.ca/articles/General/helimax.asp

one large development block positioned right off the East Beach of Point Pelee National Park. Remember that incredible flight of a half-million butterflies in 1996 that I mentioned earlier? Those fluttering monarchs migrated south over Lake Erie exactly where that development block is pencilled in.

Point Pelee may be known for its migrating butterflies and birds but it also offers something found nowhere else in this great country of ours: a clean, open view from the southernmost tip of mainland Canada. In fact, the primary goal of many of the hundreds of thousands of annual visitors who arrive at the park is simply to take in the breathtaking scenery from that sacred spot. It's also a much-needed refuge for those in search of recreation, reflection and simple spiritual renewal. Add even one wind tower to the primordial scene before them and you effectively deflower it. In recognition of its unique siting and qualities, Pelee's sandy tip was recently honoured with the opening spread in an article about the best beaches across the country⁷.

To safeguard its extraordinary attributes, a 20-kilometre-wide "no development zone" should immediately be put into effect in the waters surrounding the park. (A similar concept, restricting motorboats, is in place on a smaller scale off two land-based whale watching areas in the Saguenay-St. Lawrence Marine Park.)

The unique viewscapes offered at the sandy tip and along the east and west beaches are fundamental assets of the park – assets that should be protected for present and future generations as mandated in the Parks Canada Charter. All Canadians, be they from Vancouver, Whitehorse, Edmonton, Montreal, Halifax or Iqaluit, have a right to see those priceless national heritage views intact – views which have not changed significantly since the time of the first explorers.



Ironically, and tragically, a wind project is currently proposed off Pelee's West Beach in Pigeon Bay, so named for the passenger pigeons which once blackened the sky overhead. Could one folly of that magnitude – the extinction of an entire species – be followed by another grave error that we'll regret for generations? Perhaps someone could explain to me why one of the first offshore proposals in the entire country is on the doorstep of Canada's premier migration hotspot, a national park already under threat? *That should be the very last place in Canada to propose any offshore IWTs, not the first.*

What this sad example illustrates is the complete lack of respect shown by both the wind energy industry and the provincial government for even internationally important, top-tier natural areas. Keep in mind that the original proposal was for 119 offshore turbines and the 15 mentioned now are merely

⁷ www.canadiangeographic.ca/travel/travel_magazine/may08/25_sandy_escapes.asp

starting points for future add-ons. Several years ago, Nature Canada ranked Point Pelee as number three on its Most Endangered National Parks List⁸. As Park Superintendent Marian Stranak admitted: “We’re on [Nature Canada’s] list because the park is located in the most populated, most people-altered part of this country. When you start layering stuff on top of that, you soon realize why we’re threatened”⁹.

AN ILL WIND BLOWING

To warm you up for the final IWTs versus Wildlife section – and to see where I’m coming from – please read Calvin Luther Martin’s forthright and honest treatise *How to Fight the Big Wind Onslaught*¹⁰. I suggest skipping to chapters 7 and 9 to get right to the heart of the matter. Calvin is the husband of Dr. Nina Pierpont who diligently studied the negative effects of IWTs on human health and compiled them in her groundbreaking book, *Wind Turbine Syndrome*¹¹. After hearing from victims worldwide, the couple has absolutely zero tolerance for the lies, half truths and propaganda being dished out by the wind energy industry. According to the puffing wind industrialists, their benign IWTs substantially reduce GHG (greenhouse gas) emissions and will save the planet. In reality, they don’t and won’t. But they do substantially increase another form of GHG: Greed, Hubris and Gluttony.

Big Wind hucksters boast that there are five C’s involved in their intercourse with a targeted community (read *screw job*): Communication, communication, communication, construction, communication. In reality, there are five P’s: Propaganda, propaganda, propaganda, project construction, and propaganda. If some brave, intelligent souls stand up and object to a project with valid concerns, the Big Windies shout them down with the standard refrain of “NIMBY, NIMBY, NIMBY” (with backup chorus provided by cronies in the government and brainwashed, gullible Greenies). Hubris abounds.

In a 2006 newspaper article, John Keating, CEO of Canadian Hydro Developers Inc. – the company responsible for transforming bucolic Wolfe Island into an industrial wind ghetto with 86 turbines – had this to say about the fierce local opposition on that island: “We try to make sure [the 400-foot-high unsightly IWTs] are sited correctly and that we have great community support. There will be several hundred thousand people in a region and maybe 10 of those people object. Those 10 have the capability of holding up a \$400-million project.” 10? Really? Is that what it was? Honest Abe Lincoln said it best: “You can fool some of the people all of the time and all of the people some of the time, but you cannot fool all of the people all of the time.” Wolfe Island and nearby Amherst Island, by the way, are (were?) two of the greatest wintering areas for owls and hawks in the entire continental Northeast.

Now that you’re getting warmed up to the subject of invasive IWTs, please continue with *Wind Turbines: Offensive Industrialization of Human Space*¹² by Horejsi, Gilbert and Wuerthner. As Aldous Huxley once wisely observed: “Facts do not cease to exist because they are ignored.” Fact: Wind

⁸ www.canadiangeographic.ca/Magazine/so03/indepth/pelee.asp

⁹ www.lakeeriewindturbines.com/about/

¹⁰ <http://savethetorontobluffs.com/How%20to%20fight%20Big%20Wind%204-8-09.pdf>

¹¹ www.windturbinesyndrome.com

¹² www.canadafreepress.com/index.php/article/4163

Energy = Next-to-No Energy. Wind energy is a 98 pound weakling that needs to have an Incredible Hulk (nuclear, hydro, coal-fired or natural gas plant) running behind it on full standby at all times to provide reliable muscle power. When I had a look at the IESO website at 10 a.m. on November 8, 2009, the total wind output in Ontario – of a theoretical maximum of 1,100MW -- was a pathetic 28MW, or as the IESO cutely put it “enough to run 4,000 clothes dryers”.

Here’s a thought: Why not hang the clothes outside or on an indoor drying rack and save yourself the millions/billions in tax subsidies and increased electrical rates? Another dazzling bit of news from the IESO, “Ontario’s wind farms are located across the province – ensuring a diversity of wind energy supply.” 28MW? From diversification? Even on good days, when the wind does blow somewhere in the province, the Incredible Hulks are running on standby, ready to pick up the unreliable wind load when it falters. Is that not a duplication of effort and capital expenditure, resulting in much higher electrical rates? As for cleaning up the air for asthmatics and other health sufferers, IWTs are almost a complete failure.



According to *Smog Daze*, an article by Sarah Scott in the Summer 2006 issue of *ON Nature*, “even if we removed every single vehicle from the road and shut down every coal-fired power plant, ozone levels would decrease by only 1 to 16 percent depending upon location.” Why? Partly because it’s an international problem and we’re on the receiving end of it ¹³.

Incidentally, because of the size of Canada, it is transportation that produces most of the country’s GHGs (25%) not electricity generation (17% of the total). And in Ontario, close to 75% of the electricity generated is already GHG-free, with the remainder in future coming principally from natural gas plants if the coal-fired plants actually close. (Oops, sorry, those gas plants are the government’s dirty little secret.) Another fact: If there are widespread regional blackouts due to grid problems – as experienced during the infamous Northeast Blackout of 2003 – all those IWTs, assuming there’s wind and they’re actually working for a change, will also go dead. (Government dirty little secret #2: IWTs need to be jumpstarted with electrical juice from the grid to operate; no juice, no go.)

It’s worth mentioning here that although IWTs currently enjoy high popularity ratings with members of the propaganda-fed general public, the same popularity was accorded DDT at the height of its use. Rachel Carson, who wrote *Silent Spring* in 1962, realized the obvious: Technology, no matter how beneficial it first seems, can disrupt entire natural systems for decades or centuries. If Carson – a keen hawkwatcher -- was alive today, I can tell you which side of the wind issue she’d be sitting on and it wouldn’t be with the largely unregulated, profit-driven corporations that have little regard for wildlife, rural residents or natural landscapes. To see the striking similarities in the political handling of DDT and IWTs – the government cover-up of negatives, the uncontrolled industry propaganda, the deceitful supporting “expert evidence”, etc. – please watch the PBS American Experience program, “*Rachel Carson’s Silent Spring*”. One shining example of a pioneering anti-DDT/IWT campaigner is birding legend and honoured scientist Chandler Robbins¹⁴.

¹³ www.airqualityontario.com/science/transboundary.cfm

¹⁴ www.pwrc.usgs.gov/whatsnew/events/robbins/usgs_news.cfm

WE HAVE MET THE ENEMY AND HE IS US

The sad truth is, thousands of IWTs will have about as much effect in battling global climate change and air pollution as you would have peeing on a four-alarm fire in hopes of putting it out. If you'd like to see GHGs as well as air pollution reduced, forget about turbines and get out of your vehicle and walk, bike, rollerblade or take transit. And cancel those winter flights to Jamaica or Mexico or Cuba or wherever else you and the millions of other air-polluting jetsetters have to get to. Stay home and lower your thermostat setting; in summer, cut back on the use of your air conditioner or shut it off completely. Those acts alone will clean up the CO2 levels in the atmosphere far faster and more effectively than thousands of unreliable, don't-produce-what-they-promise IWTs. And, besides, 50 years out, won't you feel kind of stupid looking at all those rusting IWTs everywhere (don't expect the more-ons to clean up after themselves) while billions of eager Chinese and Indian consumers mimic our energy-guzzling, polluting ways thereby *really* tipping the planetary climate cart?



In a strange twist, IWTs can cut into their own slim climate positives. According to the May/June 2006 issue of *Canadian Geographic*: “Wind farms have been increasingly touted as a way of generating energy without producing CO2 emissions. But [Environmental Scientist of the Year, David Keith] knew enough about atmospheric sciences to realize that building massive arrays of wind-powered turbines would have some unintended climate impacts, locally and globally. Using computer climate models, Keith and his colleagues showed that extracting wind energy on a large scale changes wind patterns, which, in turn, could change the local or regional climate by altering the amount of heat and moisture transported by the winds...The research found that the unintended cost of harnessing the wind may be as much as one-fifth of the intended climatic benefit.”

Let's finish our industrial exploitation tutorial with Dr. John Etherington's *The Wind Farm Scam*¹⁵ (Would it surprise you to discover that the first printing of his book sold out in less than two months?) If the government truly wants to tackle the issue of global climate change in a meaningful manner, I suggest it invests in “green” solar-run condom factories and dispense the proceeds into Toronto, the entire Golden Horseshoe and other urban centres -- and control immigration while they're at it. Alternatively, pass a draconian No Impact Energy Act -- in place of the draconian Green Energy Act -- and actively enforce it in those same energy-wasting metropolitan areas¹⁶.

Unrestrained population growth -- the planet's four-alarm fire -- is the real problem and is not “fixed” by blanketing the rural landscape and Great Lakes environments of Ontario with thousands of IWTs. That's hard reality versus green fantasy and glib propaganda. The Chicken Littles in the crowd -- the panicked ones screeching “Do *something*, do ANYTHING!” to combat the urgent “crisis” of global climate change -- need to calm down and get their facts straight, both worldwide¹⁷ and in North

¹⁵ www.wind-watch.org/news/2009/09/15/environmental-scientist-exposes-wind-farm-scam/

¹⁶ <http://noimpactproject.org/>

¹⁷ www.time.com/time/health/article/0,8599,1739253,00.html

America¹⁸.

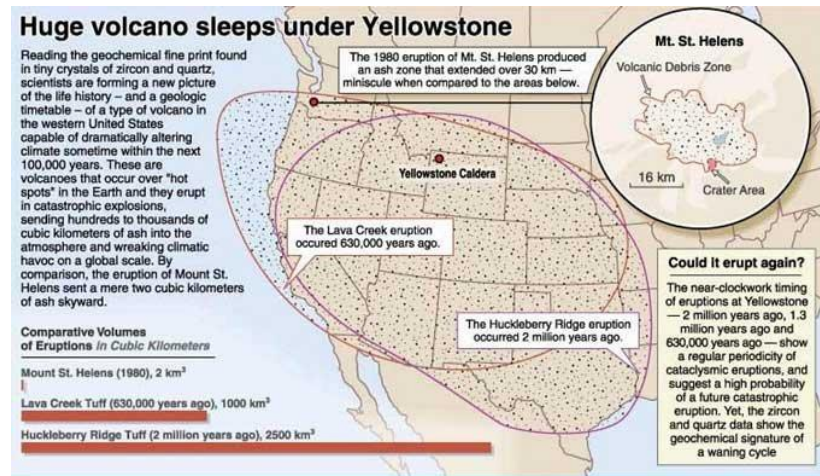
We've improved energy efficiency but squandered the gains with monster homes (with bigger spaces to heat, light and cool), gas-guzzling vehicles and more electrical gadgets. IWTs are not the solution to idiocy. As Pogo lamented: "We have met the enemy and he is us."

Check your ecological footprint at the Royal Saskatchewan Museum website¹⁹ or the more basic Zero Footprint Kids website²⁰; note that carbon offsets merely allow wealthy individuals to "offload" their selfish impact, usually by dumping IWTs in rural areas around the globe. The solution in a nutshell: Fewer affluent offspring + resulting reduced consumerism = Less pollution of any sort."²¹

Still fretting about climate change? Then consider this: 18,000 years ago – a mere blink in geological time – Canada was covered by an ice sheet three kilometres thick. Millions of years before that, the arctic was a tropical swampland with crocodiles and redwood trees. If a major volcano erupts – on the scale of a



Mount Toba or a lot less – any global warming caused by the human population will be welcomed, not cursed²². Climate change is a given, regardless of the actions of *Homo sapiens*, and some versions from Mother Earth come with extremely severe cooling consequences.



¹⁸ www.cbc.ca/money/story/2007/11/27/energyefficiency.html

¹⁹ www.royalsaskmuseum.ca/gallery/life_sciences/footprint_mx_2005.swf

²⁰ www.zerofootprintkids.com

²¹ www.guardian.co.uk/commentisfree/2009/oct/25/alex-renton-population-control-climate-change

²² www.bradshawfoundation.com/evolution

But I digress...let's move right along to the main IWTs versus Wildlife dust-up:

INDUSTRIAL WIND TURBINES VERSUS WILDLIFE (AND WILD LANDS): THE INTANGIBLES

"We talk about natural resources as if everything had a price tag. You can't buy spiritual values at a shopping mall. The things that uplift the spirit – an old growth forest, a clear river, the flight of a golden eagle, the howl of a wolf, space and quiet without motors – are intangibles."

George Schaller *National Geographic* October 2006

Remember that real estate adage, location, location, location? Golden eagles and other winged migrants share something in common with wind energy developers: They both like exactly the same breezy locations. In eastern North America, that includes the shorelines of the Great Lakes and the mountain ridgetops of the mid-Atlantic States where strong updrafts occur. According to nature, wildlife, birding and conservation organizations around the globe – all of which are in favour of renewable energy including wind turbines *in theory* -- IWTs should not be located in environmentally sensitive areas, especially significant migration corridors.



The Audubon Society states: "raptor migration bottlenecks in the Northeast, should be largely avoided." BirdLife International chimes in with the same advice, cautioning developers to stay away from major migration routes, especially migration bottlenecks. Are they avoided in Ontario and elsewhere? Nope, not if the more-ons have anything to say about it. Why? *Because that's where the wind blows the strongest so bugger everything else.* Did I mention that the quickie environmental reviews are proponent-driven? And that BIG \$\$\$\$ are involved in the tax subsidies, write-offs, lease fees, municipal tax revenues and overly-generous fixed revenue from higher electrical rates? But what about the negative impacts to rural residents, tourism, significant viewsapes and wildlife? There aren't any! Well, none that the windies will admit to. (Watch the following movies for insight on ethics and Big Business practices: *A Civil Action* with John Travolta, *Erin Brockovich* with Julia Roberts and *The Insider* with Russell Crowe.)



Before

After

GONE WITH THE WIND: LESSONS LEARNED IN THE USA AND OVERSEAS

USA: Trading One Ecological Crisis for Another

Regardless of the beguiling, “we do no harm” claims from the wind energy industry, some very dirty truths came out of the testimonies given in the 2007 U.S. Congressional Hearing appropriately titled “Gone with the Wind: Impacts of Wind Turbines on Birds and Bats.” Dr. Donald Michael Fry, Director of the Pesticides and Bird Program of the American Bird Conservancy, didn’t mince words:

“Unfortunately, to date, collaborative efforts to successfully address the impacts of wind projects on birds and wildlife have been a failure [the bold type is his]...My experience with [the National Wind Coordinating Collaborative], however, has been that there has been much discussion and almost no real action on the part of the wind industry to resolve bird collision issues at wind project areas.

The wind energy industry has been constructing and operating wind projects for almost 25 years with little state and federal oversight. They have rejected as either too costly or unproven techniques recommended by NWCC to reduce bird deaths. The wind industry ignores the expertise of state energy staff and the knowledgeable advice of Fish and Wildlife Service employees on ways to reduce or avoid bird and wildlife impacts. **Federal and state oversight for wind energy projects has been virtually nonexistent**”. But, wait, it gets even better: “Not a single prosecution for take of eagles has been brought by federal officials, and no adequate explanation has ever been provided to explain why the Bald and Golden Eagle Protection Act has been ignored for so long. The Fish and Wildlife Service developed an interim series of voluntary siting guidelines in 2003, and revised them after a prolonged comment period in 2005. Federal guidelines must be required rather than voluntary.

The wind industry has provided ample evidence that voluntary guidelines are regarded as unimportant and are thus summarily dismissed.” Fry also added a few gory details on kills: “Birds and bats killed by wind turbines are searched for by field teams at infrequent intervals, and the methods to extrapolate to the true number of birds or bats killed still remain controversial. For example, it is unknown whether small birds struck by a turbine blade moving with a speed greater than 150 mph remain intact, or whether they disintegrate into a ‘poof’ of feathers and small fragments. It is unknown how far carcasses of small birds that do remain intact can be catapulted by a turbine blade that is 130 feet long

traveling at 150 mph...**At the current estimated mortality rate, the wind industry will be killing 900,000 to 1.8 million birds per year.**” [emphasis is mine]

So are the regulatory guidelines still voluntary? Hint: Some things never change ... (Full testimonies available here.²³)

A year later, Fry wasn't any happier: "Somebody has given the wind industry a get-out-of-jail-free card."²⁴



Mike Daulton, Director of Conservation Policy for the National Audubon Society, didn't offer any encouragement at that hearing, either: "Scientists are particularly concerned about the potential cumulative effects of wind power on species populations if industry expands dramatically...to generate 5 percent of the nation's electricity by 2020 using average size (1.5 MW) wind turbines, would require more than 62,000 additional turbines to be constructed in the United States, adding to the more than 16,000 turbines already constructed...Currently there are no mandatory federal regulatory standards, and few state standards, regarding the design or siting of wind power facilities to reduce risks to birds and other wildlife...Siting decisions are often made based on wind resources, ease of access to land, and accessibility of transmission lines.

At present, little or no effort is made to coordinate the siting of wind facilities at a regional scale to avoid conflicts with migratory birds and bats. At the local scale, minimal pre-construction inventories of bird use are conducted to assess potential risks to birds. Furthermore, because there are no widely recognized standards for unacceptable levels of mortality and other risks such as displacement, it is rare for a wind power proponent to reject a site solely on the basis of risks to birds." In other words, it's a veritable free-for-all out there!



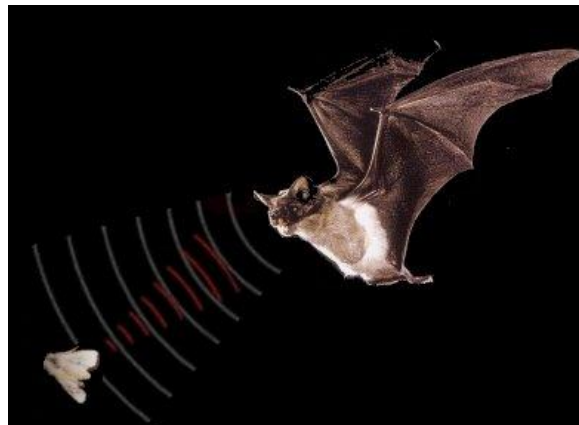
Next up, with more doom and gloom, was Edward B. Arnett, Conservation Scientist for Bat Conservation International: "Current and projected fatality rates should provide an important wakeup call to agencies, developers, and decision makers to support additional monitoring and hypothesis-based research to address a growing concern of national and international importance...An unfortunate reality is the fact that if a responsible developer decides to abandon a particular site because of environmental sensitivity, there are no state or federal regulations that prohibit another developer from pursuing a wind project on that site...Kunz et al. (2007) projected numbers of bat fatalities in the Mid-Atlantic Highlands from wind turbines expected to

be installed by 2020...they projected 32,818 to 64,281 would be killed in just one year in this region under the assumptions used. The potential for serious cumulative impacts is obvious in just this one region and when considering all regions continent-wide and over the full life of a project (20-25 years), the numbers escalate rapidly and heighten concerns." Now that's an understatement if I ever saw one.

²³ www.fws.gov/habitatconservation/windpower/wind_turbine_advisory_committee.html and www.ecwag.org/Research_Testimonies.php#10

²⁴ <http://online.wsj.com/article/SB10001424052970203706604574376543308399048.html>

Extrapolating from those figures, one could estimate, continent-wide, that more than 250,000 bats might be at risk every year. Recently, a promising fix – reducing the amount that turbine blades turn in low wind speeds – was found to decrease bat deaths in one IWT array in southern Alberta by up to 60 percent. But that still leaves the other 40 percent to worry about – assuming the recommended fix is even applied by all companies -- and 40% of 250,000+ is a **possible annual cull of 100,000+ North American bats**. Why worry about bats? Because they're the only major predator of night-flying insects, consuming more than 50 percent of their own body weight in insects in the wee, dark hours. That translates into big dollars for farmers and foresters since a bat's targets include agricultural pests such as beetles, moths and leaf-hoppers. Their voracious appetites for West-Nile-virus-carrying mosquitoes are also much appreciated. Remove 100,000 bats from the environment and you allow more than a ton of extra insects – 450 million of them – to roam free each night *and every night thereafter*. That compounds and adds up – in agricultural dollars and cents.



Dale Hall, Director of the U.S. Fish and Wildlife Service, made his appearance at those hearings and sheepishly summed up the enforcement policy of his department: “Rather than seeking to prosecute wind power facilities companies when mortality events occur, the Service prefers to work with companies to encourage them to take mitigation steps to avoid future harm.” In other words, “mortality events” are swept under the carpet and accusing fingers are wagged at the big, bad windies. Nothing else is done.

As mentioned elsewhere in the reams of testimony, when the Service does provide expert advice, it usually gets the finger in return. Take for example, West Virginia’s Mountaineer wind factory operated by Florida Power & Light: When scientific studies revealed that the ridgetop array had killed up to 4,000 bats in one season – with more to be whacked in the years following – the company refused to allow any more research to be undertaken. Dead bats? None here! The Feds? They probably gave FP&L a few words of encouragement about cleaning the mess up and then departed.



The most piercing observation at the congressional hearing came from Eric Glitzenstein, President of the Wildlife Advocacy Project: “no agency is even evaluating the *cumulative* effects of present and

planned wind turbines on at-risk wildlife species, let alone incorporating such analysis into a precautionary regulatory regime. Accordingly, in the absence of further federal safeguards, **it is inevitable that the nation will, perversely, wind up creating a new ecological crisis in the guise of addressing another one.**" [emphasis is mine]

Much was learned from those hearing testimonies – and it wasn't good news. What goes on south of the border impacts us directly because our migrants pass through American states enroute to their wintering grounds and then must return again in spring. And it's a long trip between those destinations, especially if winters are spent at the tip of South America. While slurs of "NIMBY" routinely arise in local development battles, the issue goes far, far beyond personal backyards.

A great overview of migration concerns in the eastern U.S. is presented in an Audubon chapter's video entitled *A Rough Wind: The Impact of Industrial Windmill Facilities on Birds and other Wildlife*. In little more than two decades, IWTs will explode in the Allegheny region from 131 to 16,000²⁵! Chandler Robbins -- renowned birdman and author of the early birding Bible *The Golden Field Guide to Birds of North America* -- makes a couple of brief appearances in that film to speak out against this growing madness. In addition to the thousands of invasive IWTs being plonked down everywhere, don't forget about the infrastructure that goes with them. Note that the U.S. is currently much more dependent on fossil fuels for energy than Canada is. Roughly 70 percent of their power comes from fossil fuels (predominantly coal) while 61 percent of ours is hydro derived and therefore lower in GHG emissions (in four provinces -- B.C., Manitoba, Quebec and Newfoundland-Labrador -- hydro use approaches 100 percent).



So that's the situation south of the border. All the bat and bird conservation groups in the U.S. support IWTs *in theory* -- i.e. if they are located in suitable locations that don't impact wildlife -- but choke on the damned things when they're analysed in the hard, cold light of day. As a rule, it's almost always worst location, location, location.

Overseas: Shoot First, Ask Questions Later

In Europe and elsewhere, it's the same story with different players.

The Royal Society for the Protection of Birds in the U.K. theoretically loves renewable energy, including wind power, but objected to 76 wind farm proposals (onshore and off) between 2000-2004 and had raised concerns about a further 129 by late 2006. According to them: "Wind farms must be located away from narrow bird migration routes and important feeding, breeding and roosting areas. They must not be permitted where they would have adverse impacts on nationally and internationally protected wildlife sites."

In some quarters, the RSPB is regarded as more foe than friend^{26 27}. In Spain, where many griffon

²⁵ www.wind-watch.org/video-allegheny.php

²⁶ www.iberica2000.org/ES/Articulo.asp?id=3583

vultures are killed by swirling blades, loud cries of creative accounting come up²⁸. If you're wondering what a big vulture looks like as it gets whacked by a 150 mph blade, have a gruesome look-see at this video²⁹. White-tailed eagles in Norway receive the same brand of cutting-edge technology³⁰.



Note that the concerned operator of that Norwegian eagle graveyard “is doing everything it can to find a solution to the problem.” Did anyone tell them that the birds are mostly dead? Problem solved! Big Wind calls that “mitigation”, an operating strategy best described as “Shoot first, ask questions later.” Norwegian naturalists are none too happy about IWTs killing their magnificent coastal eagles³¹. The Norwegian white-tailed eagle population is the largest in Europe: Of the 4,500 pairs that nest in the Nordic Countries, 3,500 are found in Norway. From the looks of the video – and the familiar images transcend the foreign language -- the whole coastline is going to be

turned into one long killing field. Eagles, one of the most vulnerable victims of IWTs, have been whacked in locations around the world including Germany, Spain, Norway, Japan, USA, Sweden and Australia. The Down Under allusion to a black hole is fitting and applies to other locations globally³².

ONTARIO: CUMULATIVE IMPACT IGNORED

Ontario uses a more ridiculous M.O.: “Shoot first, ask questions NEVER!” This appears to be a favourite around Queen’s Park, especially with Smitherman and McGuinty -- whose sole repertoire in reply to valid citizen concerns about IWTs is “Shut up, NIMBYs! We don't want to hear it!”

As I've already pointed out, southwestern Ontario holds the greatest migration corridor in Canada and one of the finest on earth. But when wind energy companies go looking for blustery locations to dump their IWTs, that precious super-highway gets about as much respect as Rodney Dangerfield once did (i.e. *none*).



No suitable shoreline setbacks have been established to safeguard that world-class flyway. Adding to that grievous oversight, the effort put into pre-construction environmental screening reports is deplorable. Most are based on casual observations done over only a few days, without consideration

²⁷ www.epaw.org/documents.php?lang=en&article=b0 EPAW, the European Platform Against Windfarms, consists of 375 signatory organizations from 20 countries

²⁸ www.iberica2000.org/ES/Articulo.asp?id=1223

²⁹ www.wind-watch.org/video-vulture.php

³⁰ <http://news.bbc.co.uk/1/hi/world/europe/5108666.stm>

³¹ <http://www1.nrk.no/nett-tv/klipp/141497> (Click “Fullskjerm” above the screen for a much larger view.)

³² www.smh.com.au/news/environment/green-power-black-hole/2008/01/02/1198949900016.html

for full seasonal movements, past use or variations due to severe weather conditions. In the majority of cases, local expert knowledge has not been sought, there has been inadequate use of existing scientific and historical information, and no standardized approach to the assessment process has been followed.

As a general rule, negative impacts are glossed over and minimized. Absolutely no thought is given to cumulative impact. That serious omission leads to the ongoing nickel-and-diming of the province's natural heritage. This is more than vexing, it's outrageous, especially when hundreds/thousands of IWTs may be strung in parallel lines, onshore and offshore, running almost continuously for hundreds of kilometres along the Great Lakes. A double gauntlet, coming and going!

IWTs impact local and migrant wildlife – birds, bats, monarch butterflies, dragonflies, amphibians, reptiles, fish and other creatures – on at least four fronts:

- 1) Instant death or prolonged fatal injury from a run-in with a moving turbine blade, tower or associated infrastructure such as transmission lines. Tower lights may add to the toll by attracting and/or confusing exhausted migrants at night or during the day under foggy conditions, onshore or offshore.
- 2) Displacement from the area around the turbines due to significant disturbance. Local breeders/spawners may abandon the site entirely. Disturbance can be caused by the turbines themselves (spinning blades and ensuing flicker and low-frequency noise/vibration into the air, ground or water) or from the intrusive vehicles/motorboats/helicopters and staff used in routine maintenance operations. Initial construction activity may cause local wildlife to abandon the site permanently.
- 3) Obstacles to seasonal and daily movements to and from resting, feeding, breeding/spawning, wintering and moulting areas. Some migrants may give the entire IWT array a wide berth thus increasing their energy expenditures and potentially reducing their fat stores and lifespan. The cumulative effects from hundreds or thousands of kilometres of almost continuous IWT arrays are major threats to all species, both onshore and offshore.
- 4) Habitat loss or detrimental change due to IWTs and associated roads, electrical substations and transmission lines.
- 5) Offshore, invasive species like zebra mussels and goby will increase due to lakebed disturbances and habitat changes. Underwater power cables running from IWTs to transmission lines onshore will emit strong electromagnetic fields which interfere with the behaviour and movements of sensitive fish species. Low frequency noise/vibration – which travels farther and faster in water – will negatively impact all aquatic life. Lake currents may be disrupted causing sedimentation over spawning areas and changes in temperature gradients. Commercial and sport fishing – major economic activities in the lower Great Lakes – could suffer large losses. Oil spills may also occur during construction and maintenance operations, as already documented³³. Who's ultimately responsible? Apparently no one is.

³³ www.wind-watch.org/news/2009/01/09/debate-bubbles-over-oil-spill-firm-denies-role-in-incident-last-fall/



This spells long-term trouble – especially when you compile all the separate impacts caused by individual onshore and offshore IWT projects into one very large, unmanageable **cumulative impact**. That’s what biologists on both sides of the border are stewing about: No one in government is taking responsibility and looking at the big picture. And there’s a good reason why they aren’t: It’s frightening. *Very frightening*. Not only in terms of harm to wildlife, but in the transformation of much of the rural and natural landscapes of the continent into industrialized energy outposts with deforested ridgetops, disturbed lakebeds, divided rural communities and kilometre after kilometre of giant, out-of-sync swirling blades and intrusive transmission lines.

Protection at the End of the Funnel? Are You Kidding?

The situation around top-tier Point Pelee National Park has already been discussed. If a quickie environmental screening report is ever done for the offshore block where those 500,000 butterflies fluttered by, I can assure you that the monarchs would be given almost no notice whatsoever (that’s if the person they hire to do the work is even versed on the subject). Nope, a few days shuffling around the East Beach and some minor sampling work offshore would likely be all that’s required to get the coveted government rubber stamp of approval. Bingo!

Some of you may think I’m kidding. I wish I was.

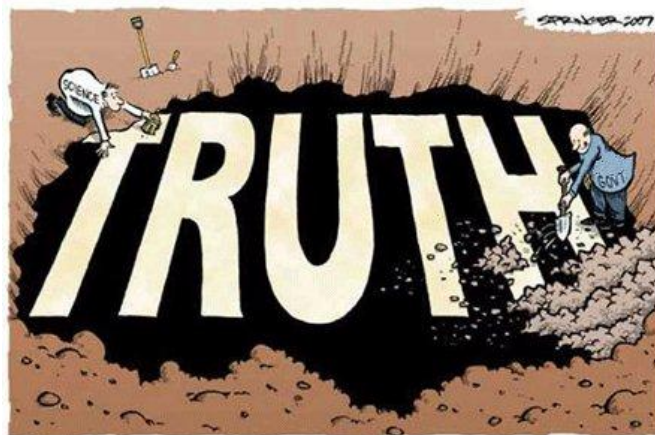
When the County of Essex, which includes Point Pelee National Park, tried to establish a five-kilometre-wide “no development” zone around its shorelines in 2008 as part of its Renewable Energy Policies, that recommendation – which was supported by local wildlife experts – was shouted down by wind industry lobby groups, including short-sighted/cash-strapped farmers who were hungry for lease money. That five-kilometre-wide safety corridor would have included the most heavily populated waterfront areas as well as the main flyway for migrants, which normally concentrate along the shorelines in season. So what was the final compromise? A pathetic setback of 200 metres from the shorelines. This is especially aggravating because the U.S. Fish and Wildlife Service in Ohio (across the lake) had already recommended a three-mile development setback for their shorelines.

Respected New York ornithologist Bill Evans recently upped that to five miles: “...the biggest concern involves the pressure to place turbines in close proximity to the shores of Lakes Erie and Ontario. These shorelines have a good wind resource, but the closer wind turbines are to the lakeshore, the greater the bird mortality will likely be. Many species fly around large bodies of water, and their flights tend to be concentrated in the vicinity of the lakeshore. Ideally, we wouldn’t site wind projects within five miles of the Great Lakes.³⁴” And we got 200 metres! An exception was eventually made for the

³⁴ http://blog.syracuse.com/outdoors/2009/11/wind_turbine_placement_should.html

onshore area around Point Pelee National Park, Hillman Marsh and Lake St. Clair but nowhere else in Essex County outside of the residential zones.

And then things went from bad to worse: After the provincial government rammed through its repressive Green Energy Act in 2009 – which stripped municipalities of authority over local wind energy matters – the policy work in Essex County and elsewhere was deemed null and void. With the exception of a paltry, inadequate 550-metre setback for rural residences, it's now open season everywhere in the province right up to the boundaries of national and provincial parks and other designated natural areas. Setbacks? Not under this totalitarian regime. Opposition is simply brushed aside with the arrogant retort of “NIMBY!”.



Manly Miner – who first documented big hawk numbers in Essex County in 1931 – reliably observed: “I have seen as many hawks [50,000] in a whole day but never before such numbers in less than an hour as this occasion. It was between eight and nine o'clock in the morning and I conclude that the birds probably congregated for the previous night in some near-by woods and were starting out together on their day's travel.” Woodlots are extremely important for all roosting migrants including birds, bats and monarch butterflies and should be adequately protected. Some of the biologists that Big Wind paid-off as hired guns to contest 200-metre woodlot setbacks in Essex County knew that broadwings climb so high on thermals during the day that they look more like blackflies than birds – and thus should stay clear of turbine blades. But those Benedict Arnolds don't seem to know one simple law of physics: what goes up, must come down (to roost). My field notes for the big flight of 1986 include the following observations: “To 6:45pm 1000+ in last hour. Flapping heavily now thermals declining. Dropping into trees to roost saw one Broadwing come back in reverse direction and perch in poplar along lake shore (6:50 pm)”. My observations, like Miner's, are detailed local knowledge gained slowly and methodically over time.

Although Big Wind routinely minimizes its avian fieldwork, they usually pay no attention whatsoever to dragonflies and ladybugs. Both of those little critters migrate by the millions and will also be impacted by spinning blades. Who cares about them? Farmers should, for one: Ladybugs eat gazillions of mites and aphids that prey on valuable crops, thus giving them great economic status. Dragonflies clean up on mosquitoes which carry West Nile virus. They're also a major food source for birds and other predators. Another biological dynamo around the Great Lakes are massed mayflies. Those incredible, swarming insects are impacted in the nymph stage by offshore IWTs vibrating the lakebed with low frequency noise, as well as in the flying adult stage when they emerge in clouds of millions and hit spinning blades. Birds and bats alike gorge on those mayfly eruptions – as do schools of fish which, in turn, feed the vital industries of sport and commercial fishing.

For more on mayflies, see references ^{35 36}.

³⁵ www.ojibway.ca/mayflies.htm

The late Earl Godfrey, esteemed author of *The Birds of Canada*, opened his classic tome with the same economic pitch: “There is no way of estimating in dollars and cents the total value of our bird life, but we do know that it is immense. Vast numbers of birds wage continuous warfare on the insect hordes that strive to devour our crops, devastate our forests, and annoy us generally. Others destroy countless tonnes of weed seeds annually. Hawks during the day and owls by night maintain a round-the-clock check on the numbers of rodent pests. Gulls and other birds perform a useful service as scavengers.” If windies understand one thing, it’s dollar and cents – as long as it goes into *their* pockets.

Bird Kills: Lies, Damned Lies and Big Wind Statistics

Let’s broach another controversial subject: The number of birds killed by turbines. Before getting into the gory details, I’d like to ask a simple question: If a table full of currency was laid out before you – and that offering ranged from pennies, to hundred dollar bills to gold bullion coins to heavy gold ingots – which would you grab first? If you said the ingots, you’re a smart cookie. They’re extremely valuable. Birds are like that, too: the overly-abundant red-winged blackbird is the penny of the avian world because its continental population exceeds 200 million. Golden eagles – less than 80,000 in number across North America – are a big handful of gold coins. The hefty, 400 troy ounce ingots? Whooping cranes and other precious rarities. All birds are not created equal and do not hold the same value. Bird kill numbers are meaningless without value rankings attached to them.

Critics of the wind energy industry know full well that the most vulnerable birds are also the most valuable: Eagles, hawks, waterfowl including swans, cranes, herons, egrets and other large-bodied birds which have a tough time changing course at the last moment³⁷. Those “big bird” species are the Fort Knox of the avian world. And, unfortunately, there are far too many sliced-and-diced examples from all parts of the globe to demonstrate how those birds are faring against IWTs. Because local breeding populations are especially hard hit, nesting bald eagles around the Great Lakes are in considerable danger; DDT got them the first time around and IWTs will be next³⁸.



³⁶ www.dispatch.com/live/content/science/stories/2009/07/05/sci_mayfly.ART_ART_07-05-09_G3_RIEBRV5.html

³⁷ www.msnbc.msn.com/id/23389384

³⁸ www.on.ec.gc.ca/wildlife/factsheets/fs_bald-eagle-e.html (click on pdf for easier reading)

Now that you know something about bird valuation, let's get back to those IWT kill numbers. As a wise man once said: "There are lies, damned lies and then there are statistics." Continuing on in that vein, we have Big Wind statistics. In any discussion about IWT bird kills with windies, the first thing out of their mouths is the fact that millions of birds die from collisions with communication towers, cat claws, house windows, vehicles, power lines and lit-up office towers. No one is disputing that sad fact. Millions of birds do indeed die that way. But how many of them are eagles, hawks, swans or cranes? I might be extraordinarily lucky, but I haven't had a single golden eagle bounce off my windshield or house window yet. Ditto for red-tailed hawks, great blue herons, egrets or tundra swans. It's the big birds with small populations and low reproductive rates, as well as rare small birds, that biologists are concerned about. As you can guess, the bird kill numbers provided by Big Wind are questionable at best – if they reveal them at all. (And I've heard rumours that kills are routinely cleaned up before casual observers see them.)

The windies usually trumpet a nose-stretching annual average of two birds killed per turbine. EPAW's Bellamy and Duchamp, in the opposing camp^{39 40}, cite 25 birds per turbine and project an eye-opening *annual* worldwide toll of 250 million dead birds in the future. And let's not forget about bat, butterfly and beneficial insect kills. Here, in Canada, Toronto Hydro likes to trot out "two birds killed per year" based on research at the showboat CNE Industrial Wind Turbine. There are three problems with that well-worn example: the first is that the turbine's operating capacity was a measly 14.7% (i.e. virtually stark still and dropping to an even-worse, five-year average of about 12% now); the second is that faulty methodology may have been used, as indicated by Toronto's bird-tracking FLAP⁴¹ (Fatal Light Awareness Program); and third, it is a single tower and does not reflect the cumulative impact of a continuous line of IWT arrays onshore and off. Also keep in mind the congressional hearing testimony from Dr. Fry about "poofed" birds and others catapulted a greater distance than expected. The science of counting small dead birds is not an exact one. And to be quite honest, it isn't the be-all and end-all of IWT impacts anyway.



What's ignored in the mad rush to the bird kill numbers is the energetic costs of displacement and disturbance to huge flocks of migrants. Dodging around individual IWTs or bypassing entire arrays of them on a flyway thousands of kilometres long burns up valuable fat stores and reduces overall fitness. That energy hit may be enough to push migrants to an early death along migration routes or on wintering and nesting grounds. On top of that, turbines may prevent birds and other migrants from using traditional staging areas to rest and feed – forcing them to continue flying on, in poorer condition, to marginal habitats. The cumulative behavioural battering from IWTs, if not fatal, will certainly raise stress hormone levels in migrants and most likely reduce their longevity. Bird kill stats from around tower bases reveal only a fraction of the whole impact picture.

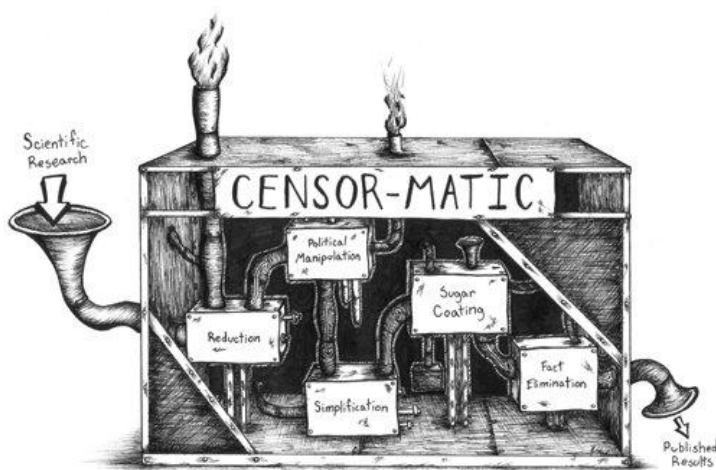
³⁹ www.epaw.org/documents.php?lang=en&article=b0

⁴⁰ www.iberica2000.org/ES/Articulo.asp?Id=1875

⁴¹ www.flap.org/new/wind_turbine.htm

My concern about IWT arrays, or “wind factories”, was heightened considerably after looking at the environmental screening report for the Erie Shores Wind Farm near Port Burwell on Lake Erie. A stone’s throw away is another Canadian birding mecca on par with Point Pelee National Park: the fabled Long Point with its pioneering bird observatory, spring and fall warbler migrations, International Monarch Butterfly Reserve and huge seasonal swan and waterfowl gatherings – not to mention its beautiful lakeshore scenery and pleasant camping (which Pelee doesn’t offer)⁴².

One would assume, then, that a great deal of fieldwork would be done and that local experts would be consulted to ensure that this naturalist mecca was not threatened. After all, Bird Studies Canada⁴³, the finest avian research organization in the whole country, and Long Point Waterfowl⁴⁴, an equally superb wetlands and waterfowl research group, are located right down the road from Erie Shores. Was their expertise tapped? Not to my knowledge.



The principal investigator, the same distinguished ornithologist who did the CNE wind turbine study, went out over only three days in the fall to have a quick look at the migration activity: “About 400 Blue Jays were tallied, mainly in early October, about half of which could have been at turbine blade heights. Larger numbers probably passed by earlier in September.” Indeed, larger numbers probably did. As you might recall, I mentioned a late-September single day count of **264,410 blue jays** at Holiday Beach further south. Blue jays zoom along the Lake Erie shore in phenomenal

numbers. Was that in the screening report? Or the fact that the north shore of Erie is one of the most significant flyways on the planet? Nope, not a word.

Divide that 260,000-plus birds in half – the estimated half observed flying at blade height – and you have a fair chunk of ruffled feathers in your hand. Would a post-construction follow-up reveal anything about the energetic costs those blue jays are now paying to fly around the IWTs? The screening reports are snapshots, not serious studies. As Mark Twain once quipped: “Get your facts first, then you can distort them as you please.” By the way, no mention was made of bats at all. If I recall correctly, flying butterflies/insects didn’t rate a word either. That’s the difference between a rubber-stamped quickie and a detailed, full-blown environmental assessment report (which the provincial government refuses to institute as a part of its Big Wind application procedure).

The famous Long Point swans, which fan out from the lake to feed in the surrounding cornfields of the region, didn’t fare much better. And those vociferous, gleaming swans – which hundreds, if not thousands, of birdwatchers come to see each spring – are worth big tourism dollars. For many

⁴² www.on.ec.gc.ca/wildlife/nwa/eng/longpoint/longpoint_hm-e.html

⁴³ www.bsc-eoc.org

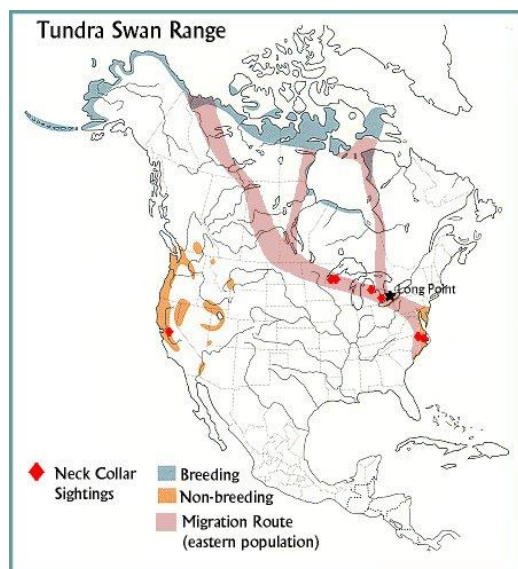
⁴⁴ www.bsc-eoc.org/lpw.html

naturalists in southern Ontario, it is a sacred rite of spring to greet those white-feathered friends and hear their raucous “Wow-how-Wow” calls again. For that reason, Long Point has traditionally been known as the Swan-Watching Capital of Ontario⁴⁵ (in fact, all of Canada).

This is no idle boast: virtually the entire eastern population of tundra swans flies into, or over, this area each spring from the Atlantic seaboard. Of all the places in southwestern Ontario to see these majestic birds – and being a swan aficionado, I’ve visited most of the hotspots – Long Point remains my favourite. If you’re looking for the place to experience noisy gatherings of thousands of magnificent swans, Long Point is almost a sure thing.



It should come as no surprise that swan research is a priority at Long Point⁴⁶. Once it became apparent that an in-depth, full environmental assessment report was not to be forthcoming – remember, the bully-boy Ontario government has not elevated one single project for a thorough



assessment – Bird Studies Canada biologists, led by Long Point Waterfowl executive director Dr. Scott Petrie, were forced into the fray. They worried not only about direct hits by turbine blades⁴⁷ but also about complete or partial displacement of the swans from their traditional staging areas. Coincidentally, only three months before, Dr. Colin Pennycuik of the University of Bristol in the U.K. had presented a paper entitled “*Wind Farms As Obstacles to Migrating Birds*” at a British Ornithological Union conference focussing on renewable energy. His birds of concern? Whooper swans, European cousins of the tundra swans that visit Long Point. In his paper, Pennycuik emphasized that large-bodied birds like swans have difficulty navigating around obstructions and at times of low cloud cover would be in grave danger of being chopped by IWTs. The solution? Keep the 400-foot-high killer obstacles out of their flight path⁴⁸.

So, at the 11th hour, Long Point waterfowl expert Dr. Petrie was obliged to enter the ring against Big Wind’s hired gun, Dr. Ross James, former ornithological head at the Royal Ontario Museum. It was no contest, however. The match was over before the end of the first round: After receiving Petrie’s solid left-right combination – an accurate appraisal of AIM Powergen’s environmental screening report as being vague and inadequate – a flustered Dr. James admitted: “My studies were general, I had to consider everything. I couldn’t concentrate on just one species.” End of bout! It was a T.K.O. with

⁴⁵ www.norfolktourism.ca/images/stories/swans_article.pdf

⁴⁶ www.bsc-eoc.org/research/lpwwrf/index.jsp?lang=EN&targetpg=lpwwrfTUSWtrack

⁴⁷ www.windaction.org/news/4950

⁴⁸ www.bou.org.uk/WFW%20abstracts.pdf

minor concessions being made on where the worst turbines could be relocated. (Full account in the July 13, 2005 Simcoe Reformer: *Biologists Tilting at windmills Wind Farm Seen As Threat to Tundra Swans.*)

But, and this is the galling part, using the recommended setback guidelines from the U.S., *none* of the turbines would have ever been allowed anywhere near the shoreline feeding areas. In Ontario? The more the merrier! Tourism and tundra swans? Who cares! Full environmental assessment reports? Bah humbug! Damned the torpedoes – or full environmental assessments – and full speed ahead. It boggles the mind that the local experts were not even consulted upfront. After all, Long Point is one of the greatest areas for migrating songbirds, waterfowl, dragonflies and monarch butterflies on the entire continent. Yet it was treated with as much respect as a weedy vacant lot down the street.

The undisputed waterfowl champ, Dr. Scott Petrie, might have felt somewhat relieved but he knew things would only get worse: the most important waterfowl migration corridor in the Canadian lower Great Lakes lay between Long Point and the Detroit River. And Big Wind was seeing dollars signs over the entire region. The Canadian Wildlife Service has long rated the shallow waters of Lake St. Clair as the greatest waterfowl staging area in Ontario outside of James Bay. Long Point is a close second. And there is much flying between the two areas, especially when it comes to swans.

The Detroit River itself is no pushover, either: in fall, more than 300,000 diving ducks stop to rest and feed on beds of wild celery in its lower reaches within the Detroit River International Wildlife Refuge, the only international refuge in North America. The coastal marshes of the Detroit River and adjoining western Lake Erie host the highest concentration of staging American black ducks on the continent -- more than 50,000 some years⁴⁹. Tens of thousands of shorebirds are common in summer. IWTs will be obstacles the entire way, with minimal concessions given around the St. Clair National Wildlife Area, another of Ontario's biological treasures⁵⁰.



Having watched swans around St. Clair NWA for a number of years myself, I know the birds feed in cornfields by the thousands west of Pain Court, then fly off at dusk to rest on the lake. Many, however, also feed in the shallow lake and fly back and forth during the day. That means trouble, especially in the low light conditions arising later on in the day. Again, IWTs should *never* have been allowed anywhere around that National Wildlife Area.

Offshore, the situation is just as onerous. In spring and fall, hundreds of thousands of waterbirds migrate along and across the north shores of Lake Erie and Lake Ontario and will be exposed to IWT arrays in the water as well as on land. Birds may be displaced from their traditional migration routes and feeding and resting areas. Diving ducks and seaducks regularly rest or loaf up to 10 kilometres offshore – within areas where IWT arrays are now proposed. Major migratory corridors will be negatively impacted.

As for the millions of colourful songbirds that fly over the lakes in spring, they'll have major obstacles to

⁴⁹ www.fws.gov/refuges/profiles/WildHabitat.cfm?ID=31521

⁵⁰ www.on.ec.gc.ca/wildlife/nwa/eng/stclair/stclair_hm-e.html

overcome in the form of 400-foot-high double gauntlets. Most flapping birds cross Lake Erie or Lake Ontario from the south at night, arriving on our shores close to dawn in an utterly exhausted condition, barely able to fly and often shivering from the ordeal. Trees, bushes and beaches near the shorelines may be covered with these poor creatures. And what will they be forced to negotiate on the way in? Offshore IWTs, right where they lose altitude to land. More IWTs await them as giant obstacles onshore. In poor conditions, when sudden storms and low cloud cover or fog converge at night, the outcome could be horrendous. Point Pelee is definitely a concern but the lines of IWTs – onshore and off – will extend up and down the entire north shore of Erie.

On Lake Ontario, the highest ranked area for wind energy development lies right off Prince Edward County, which contains Prince Edward Point National Wildlife Area⁵¹. Located on Long Point Peninsula (the second one in the province), this wildlife refuge attracts many migrants including songbirds, hawks, owls, waterfowl, bats and monarch butterflies. In regards to those butterflies, Prince Edward Point NWA has the rare privilege of joining Point Pelee National Park and Long Point NWA as one of the only International Monarch Butterfly Reserves in all of Canada. A local bird observatory proclaims its importance and standing on the feathery front⁵². How many songbirds can drop in here? On May 31, 1997, after a heavy deluge of rain grounded migrants flying in over the lake, an estimated one million birds sought refuge on five kilometres of the peninsula. Impressive! Offshore, the National Wildlife Area harbours waterfowl of all kinds; as a wintering area, it regularly attracts tens of thousands of ducks such as oldsquaw and greater scaup. Big Wind is itching to disrupt the place with onshore and offshore IWTs.

Has anyone in the Ontario government heard of due diligence and the precautionary principle where



prudent avoidance is applied? Apparently not!

Just how little due diligence is used in the IWT slap-bang-finish process becomes quite clear after looking at the recent, outrageous CFB Trenton example⁵³. The greedy windies are in such a big rush to get their hands on more green energy (read *cash*) they don't even pay attention to where our military bases and defence aircraft are located. Should we be surprised? Even worse, the local provincial political rep has the nerve to back those bunglers up: "The developer must try and mitigate these concerns. If not, then there is a mechanism they [Department of National Defence] can use to appeal." I have a better mechanism in mind: a DND bombing run directly over Queen's Park in Toronto. Heck, why can't two play the "Shoot first, ask questions NEVER!" game?

⁵¹ www.on.ec.gc.ca/wildlife/nwa/eng/prince/princeedwardpoint_hm-e.html

⁵² www.pec.on.ca/other/birds.html

⁵³ <http://wellingtontimes.ca/?p=520> and www.cfbtrenton.com



Funny enough – and if the political shenanigans involved with IWTs weren't so shocking it would be almost comical -- the industrial nightmare arising from the Green Energy Act-Big Wind collusion holds many parallels to the story of the Emperor's New Clothes⁵⁴.

Hmmmm...**Swindlers**, false claims, wasted taxpayer dollars, idiotic politicians and a gullible public. Sound familiar? Maybe it's time you gathered the courage to make the same observation as the little child in that story. Our continent's wildlife heritage and rural/natural landscapes depend on it.

And so do **hundreds of thousands of jobs**. According to *Birding in the United States: A Demographic and Economic Analysis*, 48 million American birders inject \$36 billion directly into retail sales each year but the overall kick to the U.S. economy is an astounding \$82 billion -- which translates into **671,000 jobs**. A tidy sum of \$10.5 billion in state and federal income taxes is collected from birdwatchers annually. We won't even add in the economic benefits arising from general nature studies, outdoor recreation or wildlife-watching which could be compromised⁵⁵. Canadians -- who spent an equally-impressive \$7.2 billion on outdoor activities in natural areas in 1996 -- follow the same general, dollar-pumping pattern; \$2.9 billion of that Canadian total was dropped into Ontario alone. In addition to the **215,000 jobs** created or maintained across Canada as a result of that nature-related activity, \$5.4 billion went into government revenues from associated taxes⁵⁶.

That all adds up to IMMENSE economic benefits, including close to one million jobs continent-wide. So the next time some fool in Big Wind or government starts shouting you down with the brainless slur of "NIMBY", kindly inform that ignoramus of the *real* economic consequences of their "green energy" folly.

Wayne Wegner, THE WILDLIFE WIZARD

December 1, 2009



⁵⁴ www.andersen.sdu.dk/vaerk/hersholt/TheEmperorsNewClothes_e.html

⁵⁵ http://library.fws.gov/Pubs/birding_natsurvey06.pdf

⁵⁶ www.ec.gc.ca/nature/index_e.htm click on *The Economic Significance of Nature-Related Activities (PDF format)*

