



BOARD REPORT

Friday September 17, 2010



Medical Officer of Health

REPORT TO THE BOARD

Friday, September 17, 2010

Wind Turbines and Sound/Noise - A Few Selected Reviews

Review of Noise Impact Assessment Report Waubra Wind Farm ¹

There is extensive world-wide debate between acousticians, health professionals and the affected communities regarding potential adverse health effects due to the influence of wind farms. Regulatory authorities who hear applications for wind farm planning are receiving an increased number of peer-reviewed acoustical and health impact related reports and professional evidence.

Many reports, from credible institutions such as the World Health Organization (WHO) and universities around the world, demonstrate that sound influences both psychological processes and physiological systems. Sound can affect the way we think and behave as well as cardiovascular, gastrointestinal and hormonal activities. Sound can produce a calming or distressing effect on an individual, depending on the nature of the sound and the person hearing it.

There is convincing evidence in the literature to conclude that, in some people, noise can induce annoyance and disrupted sleep including difficulty falling asleep and sleep interruption. Inadequate and disrupted sleep is associated with fatigue, cognitive impairment, increased risk of obesity, impaired glucose tolerance, high blood pressure, cancer, depression and impaired immunity.

This disruption from wind turbine noise is poorly predicted by simple measurements of the physical properties of the noise. As this disturbance can compromise health in susceptible individuals, care must be taken with respect to host communities in the siting of wind turbine installations.

Low Frequency Sound and Infrasound ²

Many animals including mammals can sense low amplitude, low frequency sound and infrasound. In nature, "infrasound" corresponds to potentially dangerous situations such as earthquakes, landslides, trees falling, predators approaching, etc. All animals studied respond to such sound by becoming more alert. This is a survival mechanism and prepares the animal for "fight or flight". Blood is diverted from the digestive system to the muscles, adrenaline is released, cortisol levels rise which add to the state of arousal and fear. Sleep initiation is delayed and the pattern of sleep is disrupted.

Human hearing perception, mediated by the inner hair cells of the cochlea, is insensitive to infrasound. Other sensory cells or structures in the inner ear are more sensitive to infrasound and can be stimulated by low frequency sounds at levels below those that are heard. The concept that an infrasonic sound that cannot be heard can have no influence on the inner ear physiology is incorrect. Some clinical ear disease conditions may cause the individual to become more sensitive to infrasound.

It is hypothesized that since some people are more sensitive to low frequency sound than others, these people would be most affected by prolonged exposure to low frequency, low amplitude sound waves such as those generated by a wind farm.

Wind Turbine Syndrome³

Dr. Nina Pierpont (*Wind Turbine Syndrome*) has completed a small epidemiological survey with 38 people who moved away from their homes because of distress after being exposed to wind turbine development. These people were from Canada, UK, Ireland, Italy and USA. The most common baseline, pre-exposure complaint from this small sample was motion sensitivity (53%). Migraine headaches and pre-existing hearing impairment such as tinnitus, deafness and previous noise exposure were also present in about 24% of subjects. Mental health disorders and serious medical illness was present in 21%. (*see Table*)

Table: Baseline Conditions and Core Symptom Occurrence*

	Total	Male	Ages	Female	Ages	N**	% of Sample
Baseline Conditions							
Serious Medical Illness	8	2	56 – 64	6	51 – 75	38	21
Mental Health Disorders	7	3	42 – 56	4	32 – 64	34	21
Migraine Disorder	8	4	19 – 42	4	12 – 42	34	24
Hearing Impairments	8	6	32 – 64	2	51 – 57	34	24
Pre-existing Tinnitus	6	4	19 – 64	2	33 – 57	24	25
Previous Noise Exposure	12	9	19 – 64	3	33 – 53	24	38
Motion Sensitivity	18	10	6 – 64	8	12 – 57	34	53

*A symptom during exposure is defined as distinctly worse for that individual during exposure compared to before and/or after exposure

**N=number of subjects in which it was possible to know about the condition or symptom, given age and other specific limitations

A symposium regarding these topics is planned for late October in Picton ON.

First International Symposium

The Global Wind Industry and Adverse Health Effects: Loss of Social Justice?

October 29 – 31, 2010

Program and registration information are attached for your reference.

Hazel Lynn

References

- ¹ - Report No 1537 Noise Measurement Services Pty Ltd. July 2010, Rev. 1, Noise Impact Assessment Report, Waubra Wind Farm
- ² - Salt, A.N., Hullar, T.E., Responses of the ear to low frequency sounds, infrasound and wind turbines, Hearing Research (2010), doi: 10.1016/j.hears.2010.06.007
- ³ - Pierpont, Nina, M.D., PhD., 2009, Wind Turbine Syndrome, A Report on a Natural Experiment

PROGRAM REPORT SEPTEMBER 2010



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WEBSITE: www.publichealthgreybruce.on.ca

We work with the Grey Bruce community to protect and promote health.

HEALTHY COMMUNITY DEVELOPMENT

Youth Engagement Program	Page 1
Fetal Alcohol Spectrum Disorder	Page 2
Substance Misuse - Moving Forward	Page 2

ENFORCEMENT/RESEARCH/SURVEILLANCE

Safe Water	Page 3
HealthSpace	Page 3
Giant Hogweed	Page 4
Hanover and District Hospital – Clostridium Difficile Outbreak	Page 4

HEALTHY COMMUNITY DEVELOPMENT

Youth Engagement Program

The Ministry of Health Promotion and Sport has provided funding for each health unit to hire staff to support the work of youth engagement. This individual will work in partnership with stakeholders to actively address health issues of importance to youth with respect to changing individual and community attitudes about tobacco and other correlated risk factors. Some of the activities planned for this fall include:

- Working with the Community for Youth Coalition (C4YC) as they take on hosting the fourth annual Grey Bruce Youth Summit.
- Providing technical support and training to the Youth Engagement grant recipients, as required.
- Working with our high school co-op students on maintaining the targetyouth.ca website.
- Working with the Grey Bruce Local Food Project to design and promote a School Video/Print Media Competition.
- Engaging youth in the planning and implementation of community-based programming and projects related to tobacco, physical activity, injury prevention, healthy eating, substance and alcohol misuse, and mental health.



Fetal Alcohol Spectrum Disorder

There are significant emotional and financial costs associated with Fetal Alcohol Spectrum Disorder (FASD). Research indicates that FASD will cost taxpayers about 5.3 billion dollars annually associated with learning disabilities, school drop-out, juvenile delinquency, alcohol and/or drug addiction, poverty and homelessness (Stade et al., *The Canadian Journal of Clinical Pharmacology*, Vol. 16 (1) Winter 2009).

In Grey and Bruce, 92% of individuals in their reproductive years (20-44 years) currently drink alcohol; of those, 31% self-report as regular heavy drinkers (Owen Sound Brockton FOCUS Project). This rate is of concern as approximately 50% of pregnancies are unplanned. When asked during a 20 minute telephone survey about safe alcohol use in pregnancy, 24.5% reported that it was okay for a pregnant woman to have two or more drinks on one occasion. This raises the issue that some local residents may not understand the risks of alcohol use during pregnancy.

The Grey Bruce FASD Community Mobilization Committee was formed in 2009 to address some of these concerns. Co-chaired by Community Living – Kincardine and the Grey Bruce Health Unit, this committee has organized training for professionals and parents; developed a poster presentation at the Vancouver International FASD conference and at the Owen Sound Health Fair; as well as moving forward with various media strategies. The most recent initiative was a poster contest with five area high schools participating. Thirteen entries were received and the winners were announced this past spring. Winning submissions will be included in an FASD promotional campaign in 2010/2011.



Substance Misuse - Moving Forward

The Grey Bruce FOCUS Coalition has been a positive example of a community partnership providing a coordinated approach to substance misuse prevention and protection. Building on this work, Ministry of Health Promotion “bridge funding” supported the development of a Grey Bruce situational assessment. Consultant Glenda Clarke & Associates completed a literature review and facilitated consultations that included a community forum, key informant interviews and a stakeholder forum.

The subsequent report, *Current Priority Issues Regarding Substance Misuse in Grey Bruce and Strategic Directions for Moving Forward*, provides a preliminary picture of the critical substance misuse issues in Grey Bruce, particularly with respect to the most vulnerable populations. The report reviews evidence-based prevention and harm reduction strategies and recommends strategic directions for moving forward with options for action. Directions include to:

- Continue use of a collaborative approach, while adopting the new *Healthy Communities* framework, to strengthen the network of community partners working on substance misuse.
- Address the impact of alcohol consumption on injuries and chronic disease and support the development of a culture where moderation is the goal.

Current Priority Issues Regarding
Substance Misuse in Grey Bruce and
Strategic Directions for Moving Forward

Prepared by Consultant, Glenda Clarke & Associates and
Marie Barclay R.N., B.N., Public Health Nurse

August 27, 2010

Funded by the Ministry of Health Promotion

(Continued on page 3)

(Continued from page 2)

- Enhance evidence-based interventions for people at risk of harm from substance misuse.
- Work towards developing a long-term drug strategy that uses a coordinated and comprehensive four pillar approach of Enforcement, Harm Reduction, Prevention and Education, and Treatment.

The recently submitted Healthy Communities Partnership proposal supports the policy development steps outlined in the report and plans are underway to move the substance misuse agenda forward within Grey Bruce.

ENFORCEMENT/RESEARCH/SURVEILLANCE

Safe Water

It has been a busy summer for the recreational water program. The higher than normal numbers of beach postings have generated a lot of media and public attention. The increases in postings reflect a trend also seen provincially and are driven, in part, by the weather patterns this year. At the end of the season, the safe water program will review the data to see if any other factors have also contributed. In addition, we plan to meet with county and municipal officials to look at ways to improve the program, including communication, signage, etc.

The presence of Blue Green Toxic Algae required response both early and later in the season. A joint meeting with the Ministry of the Environment, local municipal officials, elected representatives and the Lake Rosalind area local resident's associations was extremely constructive. A number of strategies were identified to help reduce the probability of future blooms. Work is ongoing in this area.

The Help-Line has been busy all summer; receiving 70 calls a day during peak times. Public Health Inspectors respond to the public inquiries; most commonly, providing information on beach postings, water quality and private well water testing as well as answering questions on specific health issues or hazards.



HealthSpace

Several health hazard inspection programs were piloted this summer using the new electronic inspection program HealthSpace, including migrant farm worker accommodations and children's recreational camps. Indoor air quality tests at ice arenas will be conducted on HealthSpace this fall and winter.

Giant Hogweed

This summer saw a rise in the interest of Giant Hogweed throughout the province. Grey Bruce is no exception as this noxious weed is widespread throughout both counties. The Health Unit conducted an educational and awareness effort to assist the public in identifying and to alert them to the risks posed by Giant Hogweed. A media campaign was undertaken beginning prior to the Victoria Day long weekend in May to warn campers and those participating in outdoor activities. In addition, a sustained campaign was run on the health unit website cautioning about Giant Hogweed. Links were also provided to other websites describing the plant and displaying high quality photos of the weed during its different life stages.



Hanover and District Hospital – Clostridium Difficile Outbreak

On December 19, 2009 Hanover and District Hospital reported an outbreak of *Clostridium difficile* infections (*C. difficile*) to the Grey Bruce Health Unit. The hospital had experienced sporadic cases of *C. difficile* in November and December and the infection rate rose from the base line of 0.0 to 5.2 cases for every 1,000 patient days. At the time, regular teleconferences with Grey Bruce Health Unit were initiated, recommendations on outbreak management were provided, and on-site inspections as well as audits were performed.

Collaboratively, a requested was made by the hospital and the Health Unit to the Agency for Health Protection and Promotion for their Infection Control Resource Team to assist in the management of this outbreak. The Infection Control Resource Team was deployed on March 2, 2010. As a result of this visit, a number of recommendations were made to infection prevention and control practices.

An epidemiological review of the outbreak was advised. This would ensure appropriate attribution and identification of causative factors. The Public Health Agency of Canada was contacted and a field epidemiologist was deployed on April 27, 2010 with the purpose of identifying risks associated with the acquisition of *C. difficile* by patients in the hospital and to determine mortality attributable to the infection. The summary report of the findings was shared with the hospital and Health Unit.

The *Clostridium difficile* outbreak was declared over on August 8, 2010, 60 days after the resolution of the last hospital-acquired case. There have been 17 cases and 9 deaths epidemiologically linked to the outbreak.

Hanover and District Hospital has made rigorous changes to policies, procedures and practices and the Health Unit is confident these improvements will assist the facility as they diligently strive to prevent an outbreak of this magnitude from occurring again.



First International Symposium
THE GLOBAL WIND INDUSTRY AND ADVERSE HEALTH EFFECTS:
Loss of Social Justice?

October 29–31, 2010

FRIDAY October 29 PM

12:00 pm – Registration begins

7:00 pm – Introductory Evening Session

Session I **No Rules, No Caution, No Accountability**

Orville Walsh, Co-Chair – Opening Remarks: No Global Standards

John Harrison – It's Pure Physics

Rick James – Acoustics 101

SATURDAY October 30 AM/PM

8:30 am

Session II **What Clinicians Need To Know**

Dr. Robert McMurtry, Chair – Opening Remarks

Dr. Nina Pierpont (Key Note) – Defining a Syndrome

Dr. Alec Salt – Infrasound: Your Ears Hear It But They Don't Tell Your Brain

Coffee break 15 minutes

Session III **Cause and Effect**

Dr. Arline Bronzaft – Children: Canaries in the Coal Mine

Dr. Christopher Hanning – The Torment of Sleep Disturbance

Working Luncheon Session

A Journey of Discovery – Robert Bryce

Session IV **Research and Motion**

Dr. Michael A. Nissenbaum – Deleterious Health Effects are Undeniable

Dr. Carl V. Phillips – The Absence of Health Studies Proves Nothing

Coffee break 15 minutes

Session V **The Consequences – Violation Of Social Justice**

Carmen Krogh – A Gross Injustice

Eric Gillespie – Social Justice and the Law

Dinner 7:30

SUNDAY OCTOBER 31 AM

8:30 am

Session VI **Social Marketing – Disinformation**

Dale Goldhawk – Media and Pre-emptive Stereotyping

Dr. Ross McKittrick – Coal Kills-Where Are the Bodies?

Coffee Break 15 minute

Session VII **Toward A Global Movement**

Dale Goldhawk – Moderator for Next Steps

Dr. Robert McMurtry – Wrap Up

Orville Walsh- Proceedings

First International Symposium

The Global Wind Industry and Adverse Health Effects: Loss of Social Justice?

October 29-31, 2010

Guest Speakers and Themes

SESSION I: No Rules, No Caution, No Accountability

JOHN HARRISON, PhD

John Harrison obtained his PhD. at Leeds (UK) in 1964 and completed post-doctoral fellowships at Cornell (1964-67) and Sussex (UK) (1967-69). He was a member of the Department of Physics at Queen's University from 1969-2002 and is presently retired.

Harrison has conducted research, taught physics and engineering physics courses and participated on many national and international committees. He was the Co-Editor and then Editor of the (International) Journal of Low Temperature Physics (1978 - 1992) and served a 2-year term as an Associate Editor of the Canadian Journal of Physics.

He has made presentations regarding wind turbine noise to community groups, the International World Wind Energy Conference (2008) and the annual conference of the Canadian Acoustics Association (2009). He is a member of the Ministry of the Environment Stakeholder Focus Group on Wind Turbine Noise.

RICHARD R. JAMES, INCE

Richard James has been actively involved in the field of noise control since 1969, participating in and supervising research and engineering projects related to control of occupational and community noise. He has performed extensive acoustical testing and development work for a variety of complex environmental noise problems utilizing both classical and computer simulation techniques.

Since 2006, he has been involved with noise and health issues related to industrial wind turbines. His work includes developing siting criteria for local governments, conducting acoustical tests at wind turbine sites, providing presentations and testimony.

ORVILLE WALSH, Chair CC-SAGE

Orville Walsh is a resident of Prince Edward County, Ontario and the Chairman of the County Coalition for Safe and Appropriate Green Energy. He is a board member of the Alliance to Protect Prince Edward County.

Mr. Walsh has been closely researching the development of industrial wind energy both in Ontario and globally and has committed much time to organizing this Symposium.

Orville Walsh held senior management positions with Honda Canada and recently retired after a 30 year career.

SESSION II: What Clinicians Need To Know

NINA PIERPONT, MD, PhD

Nina Pierpont is recognized as the first health specialist to identify a pattern of symptoms that manifest themselves when people live too close to industrial wind turbines. She named this Wind Turbine Syndrome.

In addition to her clinical research on industrial wind turbines, Pierpont has conducted environmental research. Her expertise in the conduct of research has been established.

Pierpont attended [Yale](#) on a National Merit Scholarship and graduated in 1977. She earned a Ph.D. (1985) in behavioral ecology at [Princeton](#) and completed a post-doctoral fellowship in ornithology at the [American Museum of Natural History](#) (NYC).

She attended [Johns Hopkins University School of Medicine](#), and earned her medical degree in 1991. Pierpont chose a pediatrics specialty and completed internship at the [Children's National Medical Center](#), Washington, D.C., with a residency at the [Dartmouth-Hitchcock Medical Center](#), Lebanon, NH.

Pierpont is a Fellow of the American Academy of Pediatrics and a practicing physician specializing in Pediatrics with emphasis on Behavioral Pediatrics.

ALEC SALT, PhD

Alec Salt is a researcher with the Department of Otolaryngology at Washington University in St Louis. He gained a Ph.D. in cochlear physiology at the University of Birmingham, UK in 1977 and performed post-doctoral studies at the University of Southampton, UK and the National Institute of Environmental Health Sciences, Research Triangle Park, NC, USA before taking an academic position at Washington University in 1984. He is currently a Professor of Otolaryngology.

His research has been funded by NIH for over 20 years and has focused on how inner ear function depends on the fluids of the ear that bathe the sensory cells. For years, he and his group have been using very low frequency sounds as a tool to manipulate the inner ear while measurements were taken. These studies showed that infrasound at frequencies as low as 1 Hz had a major influence the function of the inner ear, even at levels that would not be heard. This raises the possibility that the inaudible, infrasound component of wind turbine noise could stimulate the ear.

SESSION III: Cause and Effect

ARLINE BRONZAFT, PhD.

Arline L. Bronzaft is Professor Emerita of the City University of New York and serves on the Mayor's GrowNYC.org as chair of its noise committee. She has given testimony on the hazards of noise to government and health organizations, serves as an expert witness in court cases, and advises U.S. public officials, both locally and nationally, on the dangers of noise.

Dr. Bronzaft has written extensively on noise impacts, including chapters in nine books, articles in academic journals and writings in the popular press. Her latest chapter: Noise: Not Just Hazardous to your Ears – Harmful to Physical and Mental Well Being appears in The Consumer Handbook of Hearing Loss and Noise.

Dr. Bronzaft frequently lectures on noise in the United States and abroad and has been quoted in the media internationally. She also advises anti-noise organizations in the United States, Canada and the United Kingdom.

She received a Certificate of Appreciation from Region 2 of the U.S. Environmental Protection Agency for her achievements in the protection of the Environment.

CHRISTOPHER HANNING, BSc. MB, BS, MRCS, LRCP, FRCA, MD

Christopher Hanning is Honorary Consultant in Sleep Disorders Medicine to the University Hospitals of Leicester NHS Trust, UK. He retired in September 2007 as Consultant in Sleep Disorders Medicine.

After initial training in anaesthesia, he developed an interest in Sleep Medicine. He founded and ran the Leicester Sleep Disorders Service, one of the longest standing and largest services in the UK. He was a founder member and President of the British Sleep Society

His expertise in this field has been accepted by the civil, criminal and family courts. He chairs the Advisory panel of the SOMNIA study, a major project investigating sleep quality in the elderly, and sits on Advisory panels for several companies with interests in sleep medicine.

WORKING LUNCH SESSION: Journey of Discovery

ROBERT BRYCE, Author and Journalist

Robert Bryce is an American author and journalist, living in Austin, Texas. His articles on energy, politics, and other topics have appeared in numerous publications, including the New York Times, Washington Post, Wall Street Journal, Counterpunch, and Atlantic Monthly.

In April, Bryce published his fourth book Power Hungry: The Myths of Green Energy and the Real Fuels of the Future, which discusses many of the problems associated with renewable energy in general and wind energy in particular. In researching the book, Bryce discovered numerous reports of adverse health effects from industrial wind turbines across the U.S. as well as in Canada, Europe, Australia, and New Zealand.

Bryce spent 12 years writing for The Austin Chronicle. In 2006, he began working as the managing editor of the online magazine, Energy Tribune. Bryce is now a Senior Fellow at the Manhattan Institute.

In March 2009, he testified before the Senate Committee on Energy and Natural Resources to discuss the limits inherent in renewable energy, saying "no matter how you do the calculations, renewable energy by itself, can not, will not, be able to replace hydrocarbons over the next two to three decades, and that's a conservative estimate."

SESSION IV: Research and Motion

MICHAEL A. NISSENBAUM, MD

Michael Nissenbaum received his undergraduate education at McGill University in Montreal and completed medical school at the University of Toronto. He specialized in diagnostic imaging and completed his residency at McGill University. He received a Fellowship from the University of California.

Currently, Nissenbaum is certified by the Royal College of Physicians of Canada, and American Board of Radiology. He is a radiologist at the Northern Maine Medical Center, Fort Kent, Maine. Previous positions include Junior Faculty at Harvard University and Associate Director of MRI at a major Harvard teaching hospital.

Dr. Nissenbaum's controlled study of adverse health effects of industrial wind turbines on the people of Mars Hill, Maine cannot be dismissed as anecdotal and indicates an urgent need for robust clinical health studies into this issue.

CARL V. PHILLIPS, PhD

Carl Phillips is an expert in epidemiology and related health sciences, as well as scientific epistemology and methodology. He has earned a PhD in public policy (with an emphasis on economics-based decision making) from Harvard University, completing a dissertation on environmental policy and economics. He completed the Robert Wood Johnson Foundation Scholars in Health Policy Research postdoctoral fellowship at the University of Michigan followed by a second fellowship in philosophy of science at the University of Minnesota.

While Phillips has worked in consulting, primarily analyzing energy and environmental policy issues, most of his career has been as a professor of public health. He currently directs an independent academic-style research institute. He has taught at the schools of public health at the Universities of Minnesota, Texas, and Alberta (Canada), as well as the evidence based

medicine programs at the University medical schools of Texas, Alberta and Harvard's Kennedy School of Government.

SESSION V: The Consequences – Violation of Social Justice

CARMEN KROGH, B.Sc. Pharmacy

Carmen Krogh is a retired pharmacist with more than 40 years of experience in health. She has made a number of presentations throughout Ontario and other jurisdictions about the adverse health effects associated with wind turbines.

Krogh and another are conducting the WindVOiCe © (Wind Vigilance for Ontario Communities) self reporting health survey. She formed the support network VOW© (the Victims of Wind) whose members are suffering adverse health effects associated with industrial wind turbines. She is in touch with many victims in Ontario and other jurisdictions.

Krogh has held senior executive positions at a major teaching hospital, a professional association and Health Canada (Pest Management Regulatory Agency). She was a former Director of Publications and Editor-in-chief of the Compendium of pharmaceuticals and Specialties (CPS), the book used in Canada for prescribing information on prescription medication. Doctors, pharmacists, nurses, and other health care professionals use this publication in their daily practice.

ERIC K. GILLESPIE, LL.B.

Eric Gillespie practices civil litigation and administrative law with an emphasis on environmental issues. He graduated with Distinction from the University of Western Ontario Law School in 1994. He articulated in part with the Canadian Environmental Law Association.

Since then he has appeared before all levels of Ontario Courts and a wide variety of administrative tribunals including the Ontario Environmental Review Tribunal, the Ontario Municipal Board and at the Walkerton Water Inquiry. He has also assisted clients in other parts of Canada including New Brunswick, Quebec, Nova Scotia and Newfoundland.

Gillespie is a lead litigator in a class action lawsuit that resulted in an award of \$36 million being announced in July, 2010, the largest environmental class action award in Canada to date. In October, 2009, on behalf of his client Ian Hanna, his firm filed a court application for judicial review of the *Green Energy Act, 2009* based on the Precautionary Principle as it applies to industrial wind turbine installations. He also currently represents residents and community groups from across Ontario on wind related issues.

SESSION VI: Social Marketing of the Wind Industry–Disinformation

ROSS McKITRICK, PhD

Ross McKittrick, PhD is a Canadian economist specializing in environmental economics and [policy analysis](#). He is professor of economics at the University of Guelph; a senior fellow of the [Fraser Institute](#), a Canadian free-market public policy [think tank](#). He is the author of Economic Analysis of Environmental Policy (2010)

McKittrick gained his [doctorate](#) in economics in 1996 from the [University of British Columbia](#), and in the same year was appointed Assistant Professor in the Department of Economics at the University of Guelph. In 2001 he received an Associate Professorship and has been a full Professor since December 2008.

He has since published research on [palaeoclimate reconstruction](#), including co-authoring "Corrections to the Mann et al (1998) Proxy Data Base and Northern Hemisphere Average Temperature Series" and "Hockey Sticks, Principal Components and Spurious Significance" with [Stephen McIntyre](#). He continues to publish research in economics, usually in the area of environmental policy.

DALE GOLDHAWK, Broadcaster

Dale Goldhawk is a veteran journalist in Canadian newspapers, radio and television. He is also the host of Goldhawk Fights Back on The New AM740, Zoomer Radio. Throughout his career Mr. Goldhawk has been an advocate for people who have been disadvantaged in some way and whose voices have not been heard.

In 2005, he won a Canadian Cable Television Association Galaxi Award for Best Performance. Earlier in his career, Goldhawk worked for the Toronto Telegram, Global Television, CBC Television, CBC Radio and the CTV Television Network. He is host of Goldhawk Live, daily, on Rogers TV across Ontario, and Goldhawk Live on CPAC, out of Ottawa, seen across Canada on Sundays.

Goldhawk was nominated by the Canadian Association of Journalists as one of Canada's outstanding investigative journalists in 2001. He was a Gemini Award nominee for Best Reporter in 1996, and a National Radio Award nominee for Best Broadcaster, Phone-In Radio, in 1992.

FIRST INTERNATIONAL SYMPOSIUM
THE GLOBAL WIND INDUSTRY AND ADVERSE HEALTH EFFECTS: Loss of Social Justice?

The Waring House Inn and Conference Center, Picton, Prince Edward County, Ontario October 29-31, 2010

PLEASE FILL OUT THIS FORM AND EMAIL TO EVENTS@WARINGHOUSE.COM OR FAX TO (613) 476-6648

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REGISTRATION FEE: (INCLUDES MEALS AND DOCUMENTATION)

[] (PAID BEFORE SEPT. 16, 2010): \$310.00 + HST (\$40.29) = \$350.29

[] (PAID AFTER SEPT. 15, 2010): \$350.00 + HST (\$45.49) = \$395.49

HOTEL ACCOMMODATION: (RECOMMENDED)

[] I WISH TO RESERVE A ROOM AT THE WARING HOUSE FOR 2 NIGHTS:
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HOTEL RESERVATIONS

The Waring House Inn and Conference Center is located in beautiful Prince Edward County in Picton, ON. For Symposium booking and overnight accommodation please contact: events@waringhouse.com or Toll Free **800-621-4956**. Please refer to: *The International Symposium on Wind Industry and Adverse Health Effects*.

CANCELLATION & REFUND POLICY

A refund (less administration fee of \$100 plus HST) will be made if notice of cancellation is received before October 1, 2010. We regret that no refund will be given after this date. A substitute delegate is welcome at any time.

PLEASE NOTE

Full payment is required upon registering.

MORE NEWS and INFORMATION

www.windvigilance.com