

## **A QUIETER ALBERTA, WHAT WOULD IT TAKE?**

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With the growth of Alberta's economy, there has been an influx of people and industry into typically rural areas of the province. This increased population and industrialization brings opposing ideas for land use. Propagation of environmental noise sources (such as industrial facilities, road and rail traffic, construction, etc.) are growing within the province and conflict with human activity and the need for a quiet rural setting. It is expected that more people will be impacted by noise if steps are not taken to address this issue.

The World Health Organization states that environmental noise can be detrimental to people interfering with their daily activities at school, work, and home. To assess the extent of this problem we must look at the current state of environmental noise regulations in Alberta, ascertain the gaps in the system, identify new noise mitigation technology, and try to uncover the expectations of Albertans about environmental noise. The results of this work are some observations and recommendations necessary to create a quieter, healthier environment. Although this paper examines this issue from the Alberta perspective, the authors believe that the approach is transferable to other similar areas in Canada and abroad.

### **THE PROBLEM WITH QUANTIFYING HEALTH EFFECTS RELATED TO NOISE ANNOYANCE LEVELS**

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Much of Canada, and especially the Province of Alberta, is continuing to undergo significant industrial growth. This naturally creates conflicts in land use sometimes resulting in competing interests. That is, industry is looking for an attractive site near available infrastructure, and people are seeking a sedate country life offering more peace and quiet than most urban locations. This paper will examine what level noise can reasonably be tolerated by individuals living in a rural environment and its scientific justification. Based on the current peer reviewed psychoacoustic and human health research this paper attempts to define "acoustic annoyance" as it relates to industrial noise and sets out criteria to categorize it. Also, we will examine the difficulties in trying to quantify, as a dose response value, sound levels that are in the defined category of annoyance offering evidence of the pitfalls in trying to enact these in legislation. Rather, this paper will offer a practical approach and sound pressure limits to ensure acoustic annoyance is kept to a minimum.

Other - Environmental

## **Cats, Dogs, Trains and Planes: Towards a Wholistic Practice of Noise Abatement**

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From the vocalizations of animals through categories of mechanical noise and LFN, the author presents an approach to the classification of noise annoyance based on the perspectives of a musician and practitioner of Acoustic Ecology. Suggestions are given for the identification of annoying characteristics in noise and for a wholistic approach to noise abatement.

Questions raised include:

- Does the perception of noise as annoyance relate to the musical characteristics of noise?
- Do 'natural' and 'unnatural' noises differ on the scale of annoyance?
- Is there an evolutionary component in human reactions to noise?

## **REGIONAL NOISE MANAGEMENT PLAN, A REGIONAL SOLUTION TO A REGIONAL ISSUE**

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The Northeast Capital Industrial Association (NCIA) is a not-for-profit cooperative representing more than 28 of the largest industries in Alberta's Industrial Heartland near Fort Saskatchewan Alberta. Its mission is to understand and reduce the environmental impacts of member industries through collaborative efforts with the community and all levels of government while supporting sustainable industrial growth. One key issue to the region is the level of industrial noise that is generated by the more than 40 existing chemical and hydrocarbon manufacturing, processing, refining, and product transportation facilities and with a red hot economy in the province there are more projects on the drawing board. Controlling environmental noise and ensuring that facilities remain in compliance with regulatory requirements is a challenge for both the industry and the Alberta Energy and Utilities Board (EUB), the prime regulator for most of the energy related operations. Over the past 3 years, NCIA and EUB have been working diligently on finding a practical approach to ensuring that industrial noise levels comply with the requirements laid out in the Noise Control Directive 038. This paper explains the genesis for the concept of the Regional Noise Management Plan and ultimately the elements that eventually went into the NCIA model including universal industry best practices, stakeholder involvement, and requirements for performance measurement and reporting.