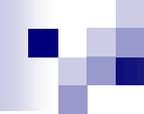


# Adverse Health Effects of Wind Turbines

Presentation to Falmouth Board of Selectmen July 11, 2011

Malcolm Donald  
124 Ambleside Drive  
MD@Zefarus.com



# Seven Adverse Health Effects

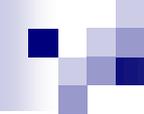
Reported by Falmouth residents:

- Sleep Disturbance
- Headaches
- Ringing in the ears
- Ear Pressure
- Elevated Blood Pressure
- Psychiatric Symptoms
- Quality of Life issues



## Looked at scientific study in Mars Hill, ME

- Controlled study of adverse health effects attributed to the wind turbine farm at Mars Hill, ME
- Performed by Dr. Michael M. Nissenbaum, M.D.



# Dr. Michael M. Nissenbaum, M.D.

- Medical School: University of Toronto
- Post-graduate training: McGill University  
Univ. of California
- former Associate Director of MRI at Harvard Hospital
- former faculty member: Harvard University
- published author
- Specialist: diagnostic imaging, whose training and work involves developing and utilizing an understanding of the effects of energy including sound on human tissues

**Controls Live Here**

**Subjects Live Here**



# About the Mars Hill Study

Group of 28 wind turbines 389 ft

*(Falmouth wind turbines 396 ft – within 10 ft)*

## **Control** group

- 27 individuals
- 16,000 ft or from Turbine

## **Study** group

- 22 individuals
- Within 3600 ft of Turbine

## Finding: Sleep disturbance

- New onset or worsened sleep disturbance since Mars Hill Project went online

### **Control** group

- 1 of 27
- or 4%

### **Study** group

- 18 of 22
- or 82%

# Finding: Sleep Disturbance

- Waking up in the middle of the night since Mars Hill Project went online

## *Control* group

- 1 of 27
- or 4%

## *Study* group

- 17 of 22
- or 77%

# Finding: Sleep Disturbance

- Difficulty falling asleep since Mars Hill Project went online

## **Control** group

- 1 of 27
- or 4%

## **Study** group

- 10 of 22
- or 45%

# Finding: Sleep Disturbance

- New prescriptions for chronic sleep disturbance since Mars Hill Project went online

## **Control** group

- 0 of 27
- or 0%

## **Study** group

- 5 of 22
- or 23%

# Finding: Headaches

- New onset of headaches since Mars Hill Project went online

## **Control** group

- 1 of 27
- or 4%

## **Study** group

- 9 of 22
- or 41%

## Finding: Ringing in the ears

- Ringing in the ears since Mars Hill Project went online

### *Control* group

- 0 of 27
- or 0%

### *Study* group

- 3 of 22
- or 14%

# Finding: Psychiatric Symptoms

- Feelings of Depression – new since Mars Hill Project went online

## *Control* group

- 0 of 27
- or 0%

## *Study* group

- 10 of 22
- or 45%

# Finding: Psychiatric Symptoms

- Feelings of stress since Mars Hill project went online

## *Control* group

- 0 of 27
- or 0%

## *Study* group

- 13 of 22
- or 59%

# Finding: Psychiatric Symptoms

- Feelings of anger since Mars Hill project went online

## **Control** group

- 0 of 27
- or 0%

## **Study** group

- 17 of 22
- or 77%

# Finding: Psychiatric Symptoms

- Feelings of anxiety since Mars Hill project went online

## *Control* group

- 0 of 27
- or 0%

## *Study* group

- 7 of 22
- or 32%

# Finding: Psychiatric Symptoms

- Feelings of hopelessness since Mars Hill project went online

## **Control** group

- 0 of 27
- or 0%

## **Study** group

- 12 of 22
- or 55%



# In reporting feelings of hopelessness

- “Nobody will help us.”
- “No options – can’t leave, and can’t live here.”
- “This is an awful thing to have happen to you.”
- “People don’t believe us – (our complaints) fall on deaf ears.”
- “No one cares. No one listens.”

# Finding: Psychiatric Medication

- New or increased prescriptions for psychiatric medication since Mars Hill Project went online

## **Control** group

- 0
- Or 0%

## **Study** group

- 4
- Or 25%

## Finding: Quality of Life

- Reported quality of life negatively affected since Mars Hill Project went online

### **Control** group

- 0 of 27
- or 0%

### **Study** group

- 21 of 22
- or 95%

# In reporting Quality of Life

- “Loss of joy in living ... put a lot of life’s plans on hold.”
- “No desire to go outside.”
- “Feel trapped.”
- “Dreams have been dashed.”
- “Was our dream home ... it’s all been stolen from us.”
- “We have no peace and quiet.”
- “No sleep.”

# Finding: Considered moving

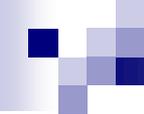
- Considered moving away since Mars Hill Project went online

## **Control** group

- 0 of 27
- or 0%

## **Study** group

- 22 of 22
- or 100%



# Conclusion

“It is my [Dr. Michael Nissenbaum] professional opinion that there is a high probability of significant adverse health effects for those whose residence is located within 3600 feet of a 1.5 MW turbine installation based upon the experiences of the study group of individuals living in Mars Hill, Maine.”



The question is simple:

*‘If there were no ill effects before the wind turbines started operating, and there are a lot of complaints about adverse health effects now that it is operating, what has changed?’*



# The Precautionary Principle

*"When an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically. In this context the proponent of an activity, rather than the public, should bear the burden of proof."*



*For more information contact:*

Malcolm Donald  
MD@Zefarus.com  
508.566.5830