

1/24/2011

Why Wellfleet will get Wind Turbine Sy...

**The latest news about Wind Turbine Syndrome**

**Wind Turbine Syndrome**

NEWS

## Why Wellfleet will get Wind Turbine Syndrome (Massachusetts)

By [admin](#) Sunday November 7, 2010



Editor's note: The following article was published on this site in March 2010, when the Town of Wellfleet, Mass., was careening toward installing a huge wind turbine on the edge of town. Happily, the Town Selectmen stopped the project dead in its tracks when they learned of the health hazards and other manifold shortcomings of this screwball plan. We are reposting the article because, alas, it somehow got misplaced when we created our new website. It now appears on the present website, again, for the first time. We are reprinting it, as well, because we get many questions from communities and individuals facing the prospect of one, two, or three turbines, wondering if one or two turbines pose a problem to health. The answer is, "yes"!



—[Calvin Luther Martin, PhD](#) (3/15/10, reprinted 11/7/10)

Wellfleet, Massachusetts. Nice town out on Cape Cod. Ever been there?

Me neither. But it's gotta be nice. National Seashore. Outstanding bird-watching. (Big migratory corridor; zillions of shorebirds come through.) Plus there's marshes and ponds. And loads of really interesting people. What's not to like?

Coming soon is one colossal wind turbine. Then it won't be so nice. At least for people living within 2 km (1.25 miles) of that thing's acoustic shadow.

The plan is for a [Vestas V90 1.8/2.0 MW](#).

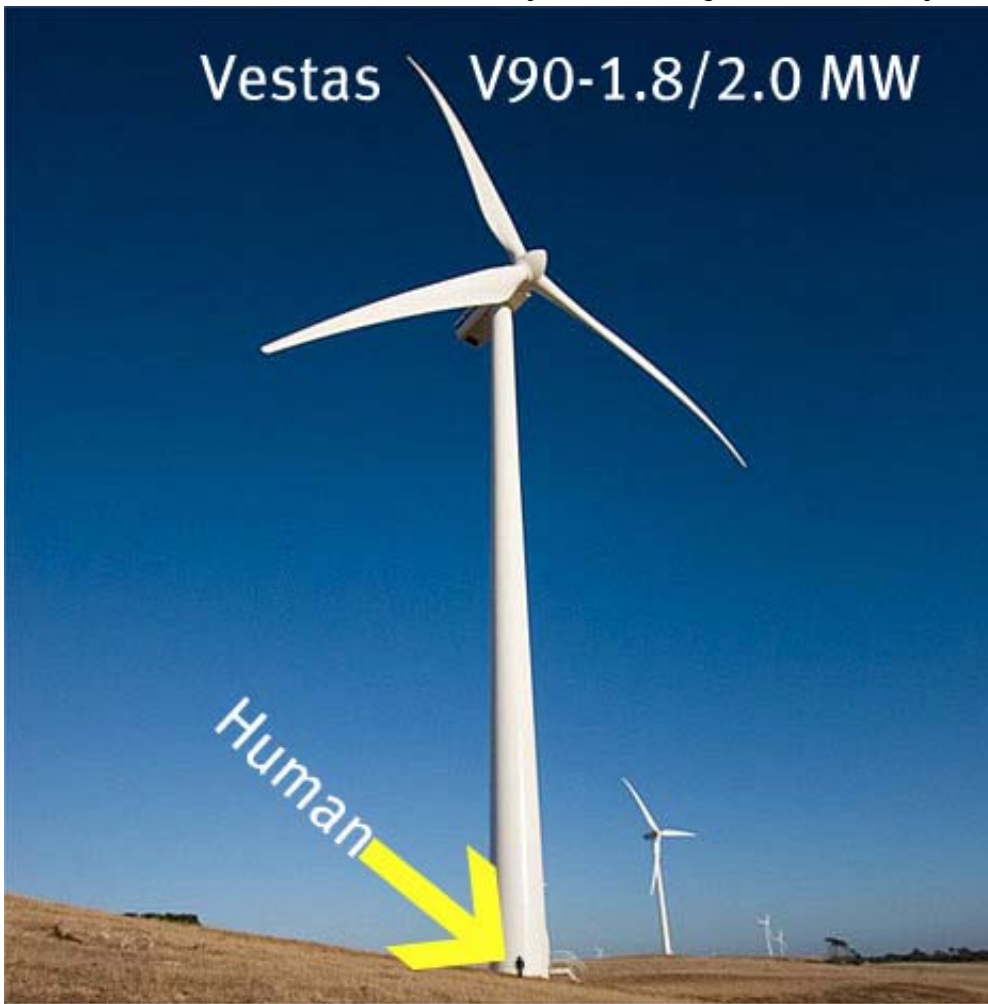


Photo from Vestas website, with human figure added for perspective

What's not to like? "Clean, green, renewable," after all. Right?

I'll try to be brief and keep it simple. (This isn't going to be a happy story. If you don't like sad stories, better bail out now.)

Wellfleet hired an engineering firm ([Tech Environmental](#)) to predict how much noise this thing will make. (The report refers to it antiseptically as the Project. It's not the *Project*; it's a stupendously big goddam wind turbine with 3 propellers churning an area the size of a football field at approx. 200 mph at the blade tips, and 200 gallons of lubricating oil in the nacelle—bus-sized box at the top—waiting to start leaking. Plus access roads, immense steel rebar-reinforced concrete base, and underground or above-ground powerlines—and the possibility of "stray voltage," depending on whether the underground lines are properly insulated, which often they are not, and depending on how surplus power is disposed of when the grid can't handle it. Let's start this story by getting the language right.)

Here's the full report. Be prepared to doze off, which may well be its intent.

["Acoustic Study of the Community Wind Project for One V90 Turbine, Wellfleet,](#)

[MA.](#)”

Download it. Look at p. 2, paragraph 1. Notice the sentences highlighted (by me) in italics.

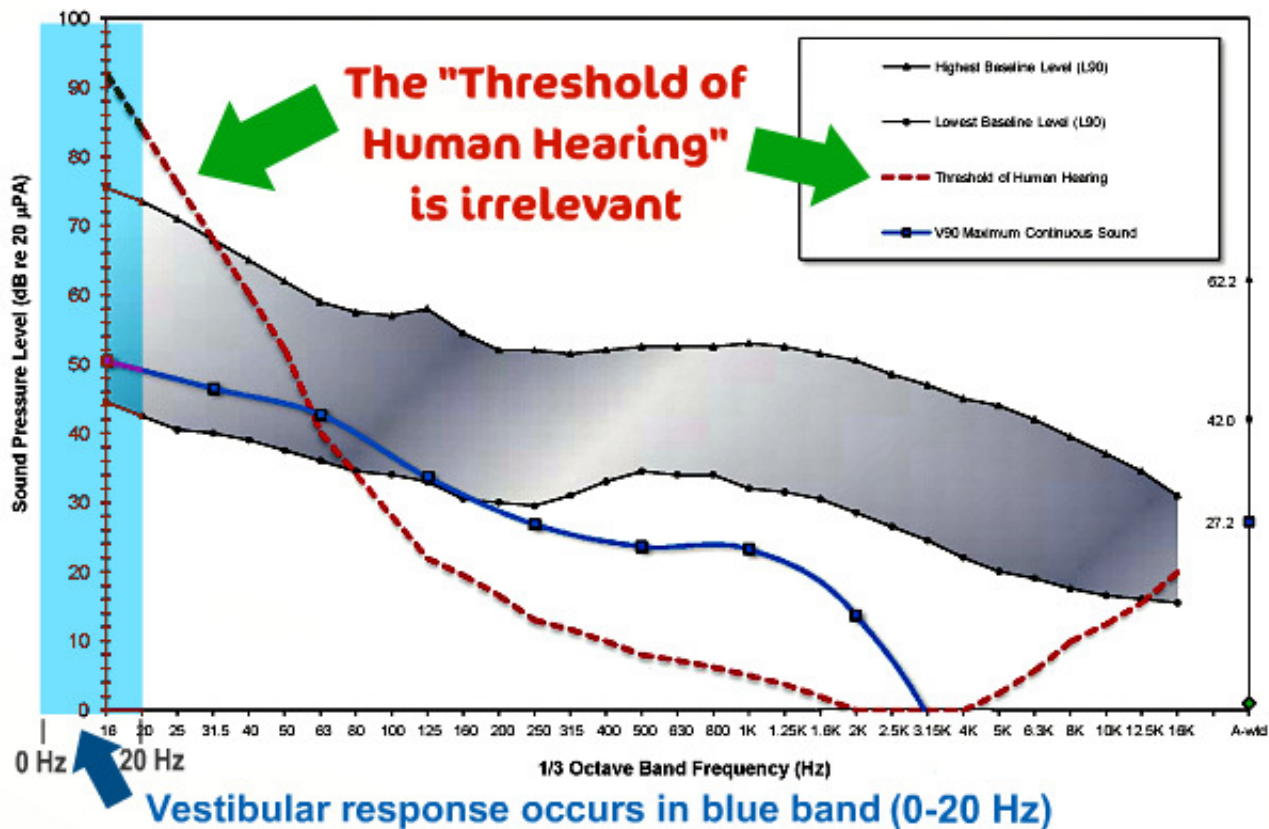
“The frequency spectrum of predicted maximum sound levels at the nearest residences was analyzed for low-frequency sound. *In the two lowest octave bands (31.5 Hz and 16 Hz), the project’s sound levels will be below the threshold of human hearing. This means very low-frequency sound from the wind turbine will not be audible at the nearest residences or at White Crest Beach and there will be no perceptible infrasound. The project will not cause vibration effects inside residences.*”

Now p. 19, bottom paragraph. Notice the sentence highlighted (by the author, presumably Peter Guldberg—the guy in the suit) in italics.

“The frequency graphs (Figures 4 through 11) reveal that in the two lowest octave bands (31.5 Hz and 16 Hz) the project’s sound levels will be below the threshold of human hearing. *This means very low-frequency sound from the wind turbine will not be audible at the nearest residences or at White Crest Beach.*”

Okay, turn to Fig. 4. I copied it, below, and added a few overlays. First, note Guldberg’s explanatory legend in the upper right corner. It says the broken red line shows the “Threshold of Human Hearing.” So far, so good.

Figure 4: Maximum Continuous Sound Level from Project Operation at Ocean View Drive North, Wellfleet for the Design Wind Speed



Take a look at the path of that broken red line. On the left side of the graph it shows that at very low frequency (20 Hertz and below), *whatever noise & vibration this thing makes will be well below human hearing*. (This claim, by the way, is probably true.)

Notice where the broken red line crosses the heavy blue line—somewhere less than 45 dB. (That heavy blue line shows “V90 Maximum Continuous Sound,” according to the legend.) In other words, as the noise & vibration of the V90 continues to climb, Wellfleeters have nothing to worry about, because humans can’t hear it. *“This means very low-frequency sound from the wind turbine will not be audible at the nearest residences or at White Crest Beach”* (p. 19).

Do you smoke? Mind if we go outside? (Can I bum one?)

Nice evening. Um, all the stuff on the graph? Like I said, it’s correct. *But irrelevant.*

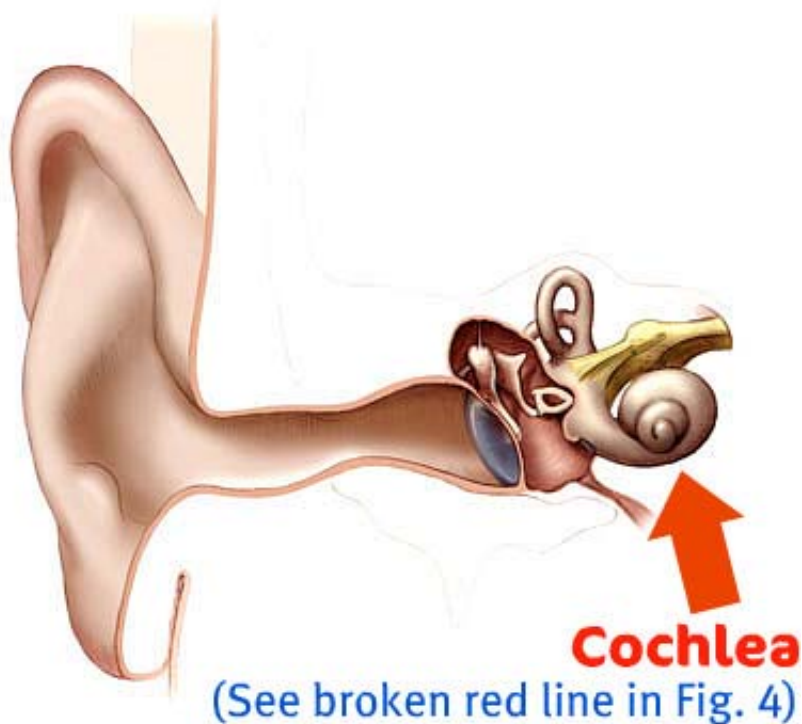
Take another look at Guldberg’s graph, above. See where I’ve doctored it a bit on the left side. I did what the guy in the suit should have done: I extended the frequency (Hertz = Hz) down to zero. I then highlighted the Sound Pressure Level (which is in decibels = dB) for 0-20 Hz with a wide blue band.



Still with me? Focus on the wide blue band I drew in.

(Mind if I bum another smoke?) Notice that any turbine noise/vibration within that wide blue band is well below the threshold of human hearing.

Here we need to get into a little physiology. (Don't panic; it's painless.) So what's "human hearing" mean? Human hearing is what the *cochlea* detects. The cochlea's the snailshell-shaped organ in this diagram.



When Guldberg writes,

The frequency graphs (Figures 4 through 11) reveal that in the two lowest octave bands (31.5 Hz and 16 Hz) the project's sound levels will be below the threshold of human hearing. *This means very low-frequency sound from the wind turbine will not be audible at the nearest residences . . .*

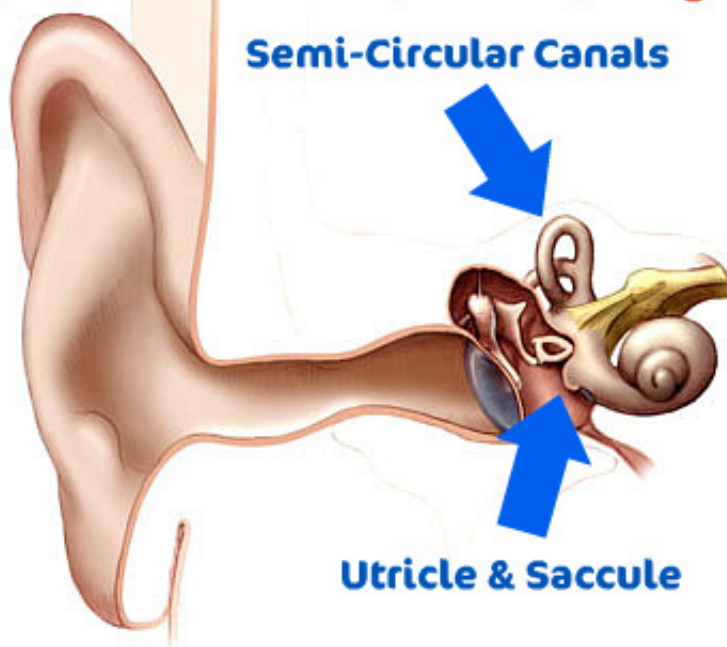
. . . he means *the cochlea (which is the organ we hear with) won't detect it.*

He's right, as I said above. (There are some minor quibbles one could interject here, but for all practical purposes he's right.) The broken red line in Fig. 4 corresponds to what the cochlea is detecting and, to flog the issue once more, the cochlea won't hear that low-frequency noise and infrasound.

While we were smokin' the first cigarette, I sand-bagged you by saying that what the

cochlea “hears” is irrelevant. Guldberg is focusing on the wrong organ. *It’s not the cochlea that matters; it’s the little organs immediately adjacent to it that matter.* Three weird little organs you vaguely remember from high school biology.

**(See wide blue band, 0-20 Hz, in Fig 4)**



They’re called the (1) semi-circular canals, (2) utricle, and (3) saccule. All together, as a triad, they’re known as the “vestibular organs.”

Better take a deep drag on that cigarette, ‘cause these cute little organs are gonna determine whether you live in heaven or hell in the months ahead. (Click [here](#) and [here](#) and [here](#) for hell on earth. Then re-read the “Inferno.” Living 2 km from a turbine is to live in one of Dante’s circles of hell—precisely 2 km from ground zero.)

The utricle and saccule, arguably the most interesting of the vestibular organs, are known as the otolith organs. Because they have “otoliths” in them. What’s an otolith? (If you’d paid more attention in biology, instead of gazing at the pretty girl in row 1 . . . ) It’s an “ear stone.” Yeah, that’s what it means. “Ear rocks.” Except they’re minute. Made out of calcium carbonate. Yeah, same stuff as seashells and chalk.

Wellfleeters have seashells in their heads. In fact, we all do. In fact, all vertebrates do. Everything that climbed aboard Noah’s Ark, and a lot that didn’t—they’ve all got them. This means they’re *Very Important Structures* (VIS) in Mother Earth’s great big complicated scheme of things.

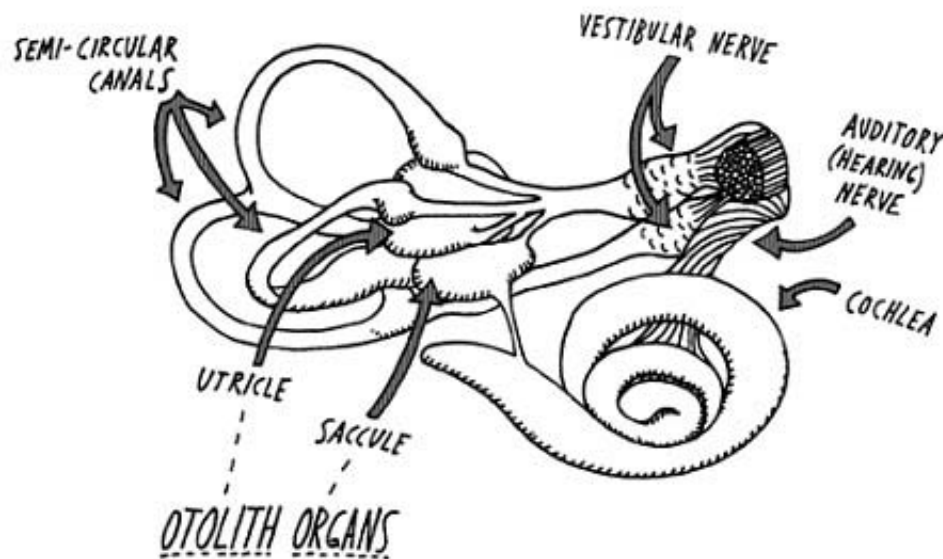


In these seashell organs—the otolith organs (utricle & saccule)—lies the key to much of your brain function, dear Wellfleeter—some otolaryngologists think they're the Sixth Sense—and the explanation for why many of you are surely going to get Wind Turbine Syndrome when the town throws the switch on that V90.

Stop here. If you live within 2 km of that proposed V90, you absolutely must read this long passage taken from Pierpont's "Wind Turbine Syndrome" book ("Report for Non-Clinicians," pp. 200-204). If you're a Wellfleeter living outside that 2 km strike zone, skip this section. If you're not a Wellfleeter at all, you too can skip this section—until you, too, find yourself targeted by a wind turbine (or natural gas compressor) 2 km or less from your back door.

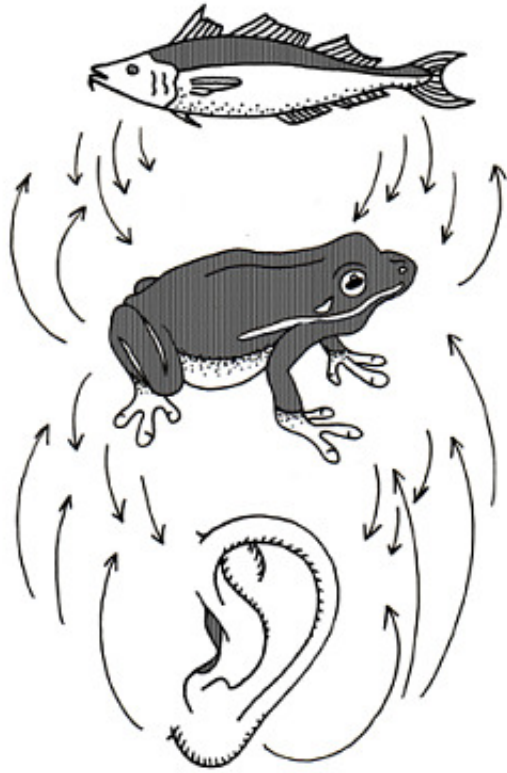
The otolith organs are key to understanding Wind Turbine Syndrome. They consist of two little membranous sacs, the utricle ("you-trick-ul") and saccule ("sack-ule"), which are attached to the cochlea ("coke-lee-ah," the spiral-shaped, membranous organ that transduces the mechanical energy of sound into neural signals) and to the semicircular canals (membranous organs which make a semi-circle in each of the three planes of movement—vertical forward, vertical sideways, and horizontal—and transduce angular acceleration: when your head is nodding or turning, they detect it).

Embedded in the two otolith organs are—believe it or not—rocks. (*Oto* = ear and *lith* = rock. Remember when your teacher declared you must have rocks in your head?) Well, not really rocks. They're tiny. In fact they're microscopic crystals of calcium carbonate (like calcite or oyster shells), called otoconia ("oto-cone-ia"), stuck together in a mass on top of the patch (macula, pronounced "mack-you-la") of movement-sensing hair cells. The weight and mass of these stones allows the hair cells to detect gravity and linear acceleration.



Things now get truly beautiful. Imagine God “with his broad sculptor-hands leaf[ing] through the pages in the dark book of the beginning” (Rilke), showing us the blueprints for the semicircular canals and otolith organs. Structures so fundamental to brain function that they are shared by fish, amphibians, and (so-called) higher vertebrates. Yes, including us. In each of these creatures these organs perform a function not only older than the mind can grasp, but so profound it has come to define what mind itself is. (Note: the cochlea, the organ we use for hearing, evolved much later in mammals.)

We are in the presence of a master key to the mammalian mind. (Not just mammalian, but the entire backboned animal world.) It is this master key, dear reader, that is counterfeited by the low frequency noise from the massive, spinning wind turbine outside your window.



We're in the presence, here, of truly ancient anatomical structures. Many millions of years old. Fish, amphibians, and "higher" vertebrates all have semicircular canals and otolith organs.

Consider this. Teleost fish, such as cod, hear with their otolith organs. Their otolith organs are their detectors of sound and vibration, such as the movements of nearby predators or prey. Their otolith organs also detect gravity (which way is up) and acceleration (if the fish moves or turns). Atlantic cod otolith organs are so sensitive to water perturbations from infrasound (at 0.1 Hz, or one wave every 10 seconds) that the fish may be able to use seismic sounds from the Mid-Atlantic Ridge or the sounds of waves breaking on distant shores to guide them during migration, hundreds of miles away.

Consider this. In frogs, the saccule (one of the otolith organs) remains the part of the ear most sensitive to substrate-borne vibration. Both the saccule and a newly evolved part of the frog ear, the basilar papilla, detect both sound and vibration, with the saccule capturing lower frequencies and the papilla higher frequencies.

All by way of laying the groundwork for the idea that our own otolith organs have been, ancestrally, detectors of sound, vibration, and low

frequency sound, in addition to detecting gravity and body movements. Human otolith organs have retained some of these functions, it turns out: they respond to noise or vibration by sending out vestibular signals.

If stimulated by a loud click or abrupt tone, normal human vestibular organs trigger a measurable, specialized reflex: an electrical signal to muscles in the front of the neck (called the “vestibular evoked myogenic potential” or VEMP). Let me rephrase this, since it’s important: a noise, delivered to the ear without any movement of the head or body, sets off a rapid (neural) chain of events that changes neck muscle tone. This neck muscle signal is part of the vestibulo-collic reflex (*collic* meaning “neck,” like *collar*). The purpose of the vestibulo-collic reflex is to stabilize the head during body or head movement. *A noise, albeit a loud and distinctive type of noise, sets off a reflex chain of events showing that the vestibular system thinks the body or head is moving, even when it is not. Yes, in normal, healthy adult humans.* (Wind developers, are you reading this?)

Noise doesn’t necessarily come in via the air, eardrum, and middle ear, however. Vibrations or “bone-conducted sound” can reach the inner ear directly through the bone in which the inner ear is sculpted. To do this in experiments or as a clinical test, a vibrating object is put against the skin over the mastoid bone behind the ear. It takes less energy (a lower decibel level) to trigger the vestibular response when the signal comes in through bone conduction than when it comes in through the air–middle ear route. Bone conduction also works better at lower sound or vibration frequencies.

Most exciting, *it was shown in 2008 that the normal human vestibular system has a fish- or frog-like sensitivity to low frequency vibration.* In this experiment, a vibrating rod was applied to the skin over the mastoid bone, using carefully calibrated force. Subjects could hear the vibrations as tones, and the researchers detected vestibular responses by measuring electrical signals coming from the subjects’ eye muscles. Interesting that this response has a distinct tuning peak at 100 Hz, meaning there is a much bigger vestibular and eye muscle response at 100 Hz than at higher or lower frequencies. (By way of comparison, 100 Hz is equivalent to G-G#, 1½ octaves below middle C. That is, keys 23– 24 on a piano.) *At this tuning peak the vibration still produced a measurable vestibular response (eye muscle electrical signals) when the vibration intensity had been reduced so much that the subjects could no longer hear the tones. In fact, the power of the vibration that produced a vestibular response was*

*only about 3% of the power the subjects could hear (15 dB lower).*

This means that some part of the vestibular organs in the inner ear is more sensitive to vibration or bone-conducted sound than the cochlea is. The authors of this study think it's the utricle, one of the two otolith organs, and some special, vibration-sensitive hair cells and nerve fibers that occur mixed in with the other hair cells in the utricle and other vestibular organs.

This is amazing. (It would be heretical if it hadn't been shown in a well-conducted experiment.) It has been gospel among acousticians for the past 70 years that if a person can't hear a sound, it's too weak for it to be detected or registered by any other part of the body. We can now write this as follows: ~~If a person can't hear a sound, it's too weak for it to be detected or registered by any other part of the body.~~ Because it turns out it's wrong. (It also means that using the A-weighted network for community noise studies is probably outdated.)

And silent be,  
That through the channels of the ear  
May wander like a river  
The swaying sound of the sea.

—W. H. Auden, from “Look, Stranger”

Okay so far? I'm going to talk, now, as though you skipped that long passage from Pierpont. (A pity if you did; it's outstanding.) For years, Big Wind has denied that turbines produce infrasound & low frequency noise (ILFN). [Either denied it exists or dismissed its significance as so trivial, it's not worth considering.](#) The (lucrative) rule of thumb being, “If you can't hear it, it can't hurt you.”

This has been definitively proved wrong. Wrong on two counts.

(1) It turns out the vestibular organs of the inner ear, along with other bodily organs of *balance*, *motion*, and *position* sense, are profoundly affected (“dis-regulated”) by sub-audible ILFN. It turns out that the frequency range of the normal human vestibular system (semi-circular canals, utricle, and saccule) is 0 (DC) to 20 Hz. Yes, this is infrasound, ladies and gentlemen. (Yes, DC means “direct current.”)

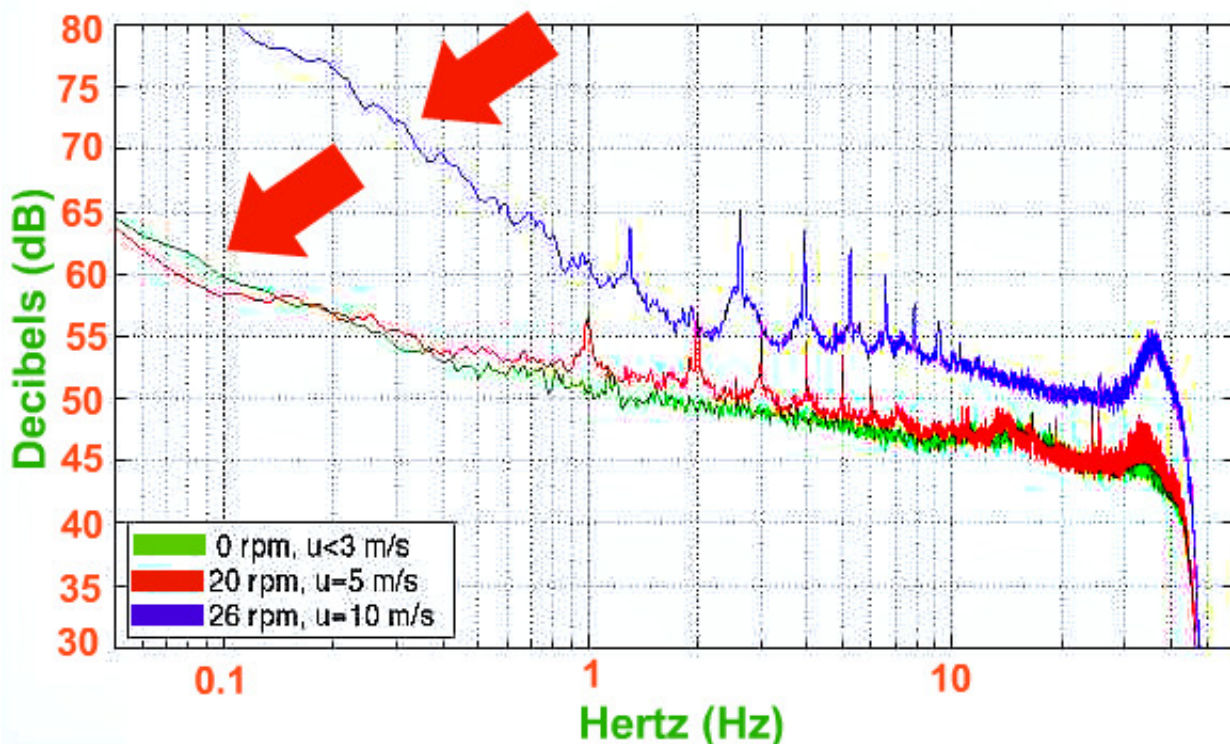
(2) Secondly, it turns out that industrial wind turbines produce strong infrasound and low frequency noise, precisely in the range (0 to 20 Hz) “listened to” by the vestibular organs—the body's principal organs of *balance*, *motion*, and *position*

sense. There are, now, numerous noise/vibration studies unequivocally demonstrating turbine ILFN. This being one of the best:

“The Inaudible Noise of Wind Turbines,” by Lars Ceranna, Gernot Hartmann, and Manfred Henger. Presented at the Infrasound Workshop, November 28 – December 02, 2005, Tahiti. Federal Institute for Geosciences and Natural Resources (BGR), Section B3.11. Stilleweg 2, 30655 Hannover, Germany. [Click here for the full report](#) (PDF).

## "Wind turbines and wind farms generate strong infrasonic noise," Ceranna et al. 2005.

Measured signals, Huf03, distance = 200 meters




Graph taken from [Ceranna et al., “The Inaudible Noise of Wind Turbines” 2005, p. 14](#), with overlaid explanatory text by KS.com

The graph demonstrates unambiguous and powerful wind turbine infrasound. Infrasound (which, mind you, is lower than low frequency noise) is defined as noise & vibration less than 20 Hz—except this is “noise” you can’t hear. The point is, your vestibular organs register this as alarming, confusing signals. Signals that disrupt (hijack) these multimillion-year-old, exquisitely sensitive inner ear structures. Thus creating the panic (“fight or flight”) response upon awakening in the night, plus the vertigo and nausea, plus the more long-term memory and concentration deficits (yes, the vestibular organs affect cognition). And so on.



Think of it this way. *Wind turbines make people seasick—yet worse, because it's long-term.* “Worse,” too, in the sense that people become sensitized to the ILFN. No, I didn't say “de-sensitized”; I said “sensitized.” Meaning, you become *increasingly sensitive* to ILFN the longer the exposure. (Yes, there is plenty of clinical evidence for this. Read Pierpont's book.)

Internationally acclaimed noise expert George Kamperman calls *Ceranna et al.* “the best documentation I have seen on wind turbine infrasound. This is a careful study on a single wind turbine utilizing instrumentation appropriate for measuring very low frequency infrasound.”



Turn to the final page of *Ceranna et al.*, p. 23, for the authors' conclusions: “Wind turbines and wind farms generate strong infrasonic noise which is characterized by their blade passing harmonics (monochromatic signals).”

## Conclusions

- number of wind turbines and their size is constantly growing
- wind turbines and wind farms generate strong infrasonic noise which is characterized by their blade passing harmonics (monochromatic signals)
- generated noise of wind turbines can theoretically be estimated
  - geometrical spreading  $\sim R^{-1}$
  - SPL  $\sim \text{rpm}^4$
- recordings from field measurements near a single wind turbine show that the theoretical model is also valid for frequencies below a few Hz
- minimum distance between an infrasound array and a wind farm can be estimated to avoid reduction of the array's detection capability (e.g. 600MW wind turbine:  $d > 15$  km, 11-element wind farm:  $d > 30$  km)

Mind if I bum another cigarette? Guldberg's report for the Town of Wellfleet? It's irrelevant because it focuses on the wrong organ. It's referring to the cochlea. The whole report is built on a theory dreamed up a century ago by some acoustics professor (George Kamperman can tell you who it was) and, alas, it's been gospel ever since. That theory being, "If you can't hear it, it can't hurt you." As Pierpont demonstrates, that theory is now more properly rendered, "~~If you can't hear it, it can't hurt you.~~" One of the many "science" dogmas consigned to the scrapheap of history—except it's there, hidden in plain view, serving as the linchpin of Guldberg's report to the good people of Wellfleet.

*"The frequency spectrum of predicted maximum sound levels at the nearest residences was analyzed for low-frequency sound. In the two lowest octave bands (31.5 Hz and 16 Hz), the project's sound levels will be below the threshold of human hearing. This means very low-frequency sound from the wind turbine will not be audible at the nearest residences or at White Crest Beach and there will be no perceptible infrasound. The project will not cause vibration effects inside residences," p. 2.*

*"The frequency graphs (Figures 4 through 11) reveal that in the two lowest octave bands (31.5 Hz and 16 Hz) the project's sound levels will be below the threshold of human hearing. This means very low-frequency sound from*

*the wind turbine will not be audible* at the nearest residences or at White Crest Beach,” p. 19.

Wellfleeters might have seashells in their heads, but they don't have garbage in their heads. This, ladies and gentlemen, is nonsense—literally, irrelevant noise.

(Note to Wellfleeters: Beware of noise engineers and acousticians making clinical pronouncements, explicit or implied. Like, “if you can't hear it, it can't hurt you.” These people are not clinicians. They have no clinical training whatsoever.)

But don't believe me. Go ahead and allow your town board to build that V90 and flip the switch at a big town celebration. Balloons, hot dogs, rousing speeches, kids running around—the whole nine yards. “Let's have a big hand for the big marvels of Big Wind!”

Then pull out this article when you're waking up in the night in a panic and can't get back to sleep. Or you start feeling the nausea. And vertigo. And tinnitus (ringing in the ears). And headaches. And pressure in the head and ears.

And, my favorite, a weird sensation of internal quivering, like your insides are vibrating (which they in fact are). It's called *Visceral Vibratory Vestibular Disturbance* (VVVD). Pierpont named it that. (She will likely be reading a paper on VVVD at a clinical conference soon. She's been invited. Wellfleeters can provide her with more data. She'd like that.) Lots of WTS victims get VVVD. The person who described it best was a medical doctor in Pennsylvania suffering from turbines next door (closest one being 2400 feet, a little under half a mile). Here's how Pierpont defines it in her book:

*Visceral Vibratory Vestibular Disturbance* (VVVD): a sensation of internal quivering, vibration, or pulsation accompanied by agitation, anxiety, alarm, irritability, rapid heartbeat, nausea, and sleep disturbance. See pp. 55–60, 76–79, 224, and 235–36.

No, I'm not done listing your symptoms. There's also cognitive problems. Your memory starts eroding. And concentration, too. Yes, that's vestibular as well, as Pierpont explains.

Some of you will perhaps get ocular strokes, or something similar. That's in her book, too.

Anyhow, when these strange symptoms start showing up (Wind Turbine Syndrome),

pull out this article. Join the dots—to that V90.

One thing you needn't bother doing: complaining to the town board. The board will contact a noise engineer who will come out and take noise/vibration measurements. I assure you—better yet, I guarantee you—the measurements will show the turbine is compliant with town law, which will say something along the lines, “the turbine shall not exceed 50 dBA.”

Here's the key to understanding the “weighting game.” Noise engineers who come out and take measurements do so in the *audible range of hearing*. That's what the “A” refers to in the “50 dBA.” I repeat, *their measurements will unequivocally show that the turbine is compliant with your town law: it does not exceed 50 dB in the audible range.*

Whereupon the Wellfleet Town Administrator, undoubtedly a decent and honest man, will say, “Sorry folks! It's within the noise limits set out in the ordinance.”

The problem being, of course, that the noise engineer won't be measuring in the 0-20 Hz (infrasound) range, where the dB is HUGE, with frequent (several times a second) pressure bursts up to 90 dB. (Turbines, again, produce an enormous amount of infrasound.)

If, by some miracle of God, you manage to browbeat the town administrator into hiring a noise engineer to take (warning: they're very expensive) *linear* noise measurements (i.e., not limited to the A = audible range—called A-weighting), you will find, *Aha! that damn turbine is generating loads of infrasound after all!*

Not so fast! You're not out of the woods yet, because the *First Law of Noise Engineers* is still, “if you can't hear it, it can't hurt you.” No kidding. And when you get mad as hell and bellow, “*Goddammit, I'm getting sick from that turbine, and yes I can hear it!*”—you will be told it's all psychosomatic. (This is what the much ballyhooed AWEA and CanWEA “expert” report, rebutting Pierpont's “Wind Turbine Syndrome,” concludes. No kidding. It's that corny.)

It's called the “nocebo” effect. Look it up in Wikipedia. You're a nut case. You need to see a shrink. (The media will go along with it, by the way. They'll write that you “claim” to have health effects. Not that you *have* them; you *claim* to have them. And they'll call them your health “concerns,” by the way. You're not sick; you have *health concerns*. Don't look for any help from the media; most of them are stenographers for Big Wind.)

Nothing violates the *First Law of Noise Engineers*. It's like gravity. Like Jehovah, it is the great industrial "I am." It's gotta be the Industrial Supreme Being, otherwise the whole industrial noise reign of terror which has been around since, Jeez, the first steam engine!—will start to collapse.

Then what do you do? I dunno. Punch a hole in the wall, I guess.

Back to Wellfleet. Whoever is promoting this project—that is, whoever is selling your town board on this V90—has managed to hornswoggle the board into believing the 0-20 Hz infrasound is irrelevant. *On the contrary, it's the most relevant thing about the whole project!* And, by the way, when Geof Karlson, Chair of the Wellfleet Energy Committee, states the following, he's wrong.

What is most important is the attenuation of sound over the distance from the turbine nacelle to the closest residence, almost 1/2 mile away. By the time the sound reaches the closest residences, it has attenuated to an extremely low level and its contribution to the decibel level at those residences is minor. ([Wellfleet Forum—Wellfleet Wind Turbine Program —3/1/10, p. 12](#))

Infrasound does not attenuate like this, Mr. Karlson. (Did these guys ever study physics? Or does wishful thinking and bombast trump Physics 101?) Nor does wind turbine audible noise, for that matter. Depending on topography and geology, infrasound can travel very far. (In and over the ocean, for huge distances.) Furthermore, infrasound will readily pass through walls—like proverbial butter—oftentimes setting up resonance/vibration patterns within the home, depending on room dimensions.

Again, don't believe me; just remember where you put this article when your Wind Turbine Syndrome kicks in. For some of you it will be pretty quick. For others, more gradual. For those with migraine disorder, you're at special risk, as Pierpont demonstrates statistically.

Migraine disorder? Did you get seasick and carsick as a kid? Then you're motion sensitive. That V90 will make you seasick/carsick again. And worse, because it's long-term.

The end. I promised to be brief. I lied. And, before you ask: *No, there is no cure for WTS*. All you can do is move away. Since the V90 will be operating within specs and code, it won't be turned off. Trust me, they never are.

Go buy a “for sale” sign and hammer it in your front yard.



d'Entremont home, Pubnico Point, Nova Scotia

Then start worrying whether your property is worth anything. After all, your home is acoustically toxic. But that's another sad story for another day. (Just as the windies will load you with documents *proving* that Pierpont is blowing smoke about Wind Turbine Syndrome, they've got another stack of documents *proving* that living near turbines absolutely does not hammer property value. I'm not kidding.)

[Daniel & Carolyn d'Entremont](#) pounded a “for sale” sign in their front yard—only to discover no one would buy it. So they locked the door and left. Yes, they are still gypsies, going from rental to rental. Still fighting the wind developer. The good news is, their Wind Turbine Syndrome (which the whole family got) disappeared once they abandoned their home.

So. There you have it. This is what prompted Pierpont to write the following letter to the Wellfleet Town Administrator. [Download it here](#). And [download Pierpont's c.v. here](#).



Thanks for the cigarettes. (Don't you know smoking's bad for your health?)



On the way to Naushon (1984)

March 12, 2010

Paul Sieloff, Town Administrator  
300 Main  
Wellfleet, MA 02667

Dear Mr. Sieloff,

I am told that the Town of Wellfleet is proposing to build an industrial-scale wind turbine as close as 2 km to people's homes.

Permit me to speak plainly. This is a reckless and violent act. The evidence for turbines producing substantial low frequency noise and, worse, infrasound, is no longer in dispute. Second, the clinical evidence is unambiguous that low frequency noise and infrasound profoundly disturb the body's organs of balance, motion, and position sense. Third, the case studies performed by me and other medical doctors have demonstrated unequivocally that people living within 2 km of turbines are made

seriously ill, often to the point of abandoning their homes. Fourth, there is no doubt among otolaryngologists and neuro-otologists who have studied the evidence that wind turbine low frequency noise and infrasound are seriously disrupting the body's vestibular organs, resulting in the constellation of illness I have called Wind Turbine Syndrome.

The cure for Wind Turbine Syndrome is simple: Move away from the turbines or shut them off. The prevention of Wind Turbine Syndrome is even simpler: Don't build these low frequency/infrasound-generating machines within 2 km of people's homes. Governments and corporations who violate this principle are guilty of gross clinical harm. Such governments and corporations should be taken before whatever level of court is necessary to stop this outrage.

These are strong words. They are carefully chosen. They are strong because governments and the wind industry stubbornly—I would now add, criminally—refuse to acknowledge that they are deliberately and aggressively harming people. This must stop. The evidence is overwhelming.

I repeat, this must stop.

Sincerely,

Nina Pierpont, MD (Johns Hopkins), PhD (Population Biology, Princeton)  
Fellow of the American Academy of Pediatrics  
Former Clinical Assistant Professor of Pediatrics,  
College of Physicians & Surgeons,  
Columbia University