

June 9, 2019

**TO: Kris Kendrick and Tyler Lachowsky  
Justices of the Peace  
Faulkner County, Arkansas**

**From: [Larry Will](#)**



Reference: <https://www.fox16.com/news/local-news/faulkner-county-committee-to-discuss-a-strict-noise-ordinance-tuesday-night/>

I see from the referenced article that someone must be pressing for a noise reduction ordinance in Faulkner County. It sounds like there are some people that are objecting to this on the grounds that this ordinance will place unrealistic restrictions upon them. One tends to wonder if there isn't some truth to that. I am writing to point out that any noise restriction that requires the use of sound measuring equipment by untrained people, not well versed in the measurement of sound, will lead to enforcement chaos, even law suits if this judgement impacts someone's livelihood.

I am a former Vice President of Engineering for Echo Inc., a leading manufacturer of powered lawn care products. I am not a stake holder in the above proposed regulation, nor am I trying to interfere with any decision you deem necessary for Faulkner County, but I am a source of facts regarding sound that you should consider before you make up your mind on this issue. The information I have included in this commentary is based partly on my own

personal experience of 26 years and partly on reputable sources of information to which I provide Internet links. As an expert in this field, I am in a unique position to supply these facts.

There are many things to learn about sound in order to understand what it truly is. But to simplify the concept, consider that sound is nothing more than the movement or vibration of air molecules. As they move, ever so slightly, the ear can sense its magnitude and frequency. In other words, you can easily decide if it is easy to listen to or does it irritate you? It is this subjective evaluation that is at the bottom of the sound issue. When noisy machines are used at inappropriate times, they can be even more offensive.

Before I go any further, I would like to suggest that you take a moment to review a very well stated and easy to understand pamphlet on the subject of sound and [sound measurement](#), published by a highly reputable manufacturer of sound measuring equipment.

Because sound magnitude is expressed in decibels, which is a logarithmic value, the actual number can be misleading. The fact is, for every six dB(A) reduction in sound magnitude, the actual volume is reduced by 50%. This is hard to believe for the average person, so the best thing to do is to witness an actual sound comparison, but I know that it's not easy to arrange this. An alternative is to check out the [video](#) of an actual demonstration developed for the comparison of leaf blowers on my website. The difference between a loud blower and one that is quiet is impressive. You might be surprised to learn that battery powered leaf blowers are not as quiet as you may have been led to believe. In addition, keep in mind that cordless leaf blower performance is just not there yet for the professional.

It has been my experience that measuring sound accurately is not easy. Here are some of the variables to measuring sound level:

- Distance from the source
- Direction and magnitude of the wind
- Sound reflecting environment (walls, cars, people, open field)
- Ambient sound and level below source being measured
- Type of ground surface (grass, concrete)

- Ambient temperature
- Position of subject, (facing toward or away from microphone)
- Load on the source (Engine idle or full throttle, blade engaged or disengaged)
- Quality and repeatability of measuring equipment, including calibration to a known value.

In the case of a leaf blower, which is a device to which I was able to reduce sound level by 75%, the operator is measured at 50 feet and in eight different places as he rotates 360 degrees in place, which are then averaged for a value for that specific test. This test is then repeated four more times and the data from each of the five tests is averaged once again for one specific result. All this is per the very detailed industry Standard, [ANSI B175.2](#).

Of the engine powered products found in a residential area, the only one that can be monitored using an accurate ANSI [sound label](#) is the gasoline powered leaf blower. Otherwise, sound magnitude will be a subjective evaluation.

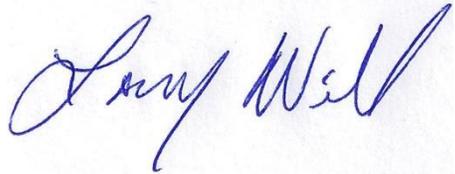
Regarding the proposed sound level limits of 75 dB(A) and 85 dB(A), these values are meaningless unless the above parameters are spelled out. At the very least, one needs to know if the measurement is taken at the source or is it what is experienced by a bystander? So, you see, considering all the variables involved, measuring sound to determine compliance to an ordinance is not the way to go.

One thing to think about is what an ordinance that limits sound level would do to the professional lawn care provider. Whatever equipment he presently is using, he likely will have to replace his equipment and except for the leaf blower, how will he know if it will comply with your ordinance? Lawnmowers do not come with sound labels. One alternative he might consider is battery powered equipment, but those do not have sound labels either. Plus, these could take him [ten times longer](#) to clean up the yard debris or cut the grass. The added cost could either put him out of business or, at the very least, increase the cost to his customers.

Thank you for taking my comments under consideration. If you should need information that is not clearly addressed here or on my website, please

contact me and I will do whatever I can to help, at no cost to you, including further research on your behalf.

Best regards,

A handwritten signature in blue ink that reads "Larry Will". The signature is fluid and cursive, with the first name "Larry" and last name "Will" clearly distinguishable.

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