

Enforcing Noise Ordinances in Florida

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Abstract

Florida is changing and growing and as change takes place, law enforcement will be confronted with many issues. Noise ordinance enforcement is an area that traditionally law enforcement has not looked at as a high priority. Quality of life issues are one area that law enforcement may be given the responsibility of enforcing. Something initially viewed as a minor complaint can have serious effects on the residents of a community. Most communities in Florida have a noise ordinance in one form or another. Enforcement of noise ordinances is a science that administrators should look at from a training prospective as well as realistic prosecution. This paper will explore the different types of ordinances as well as the proper equipment to be used.

Introduction

As Florida moves into the new millennium, many problems will continue to emerge. Communities are growing as never before, fueled by the large tourism industry. Our woodlands and wetlands are giving way to new developments. New entertainment theme parks open on a regular basis. Beautiful beaches all over Florida have seen dramatic changes. The sand dunes and sea oats are giving way to homes and condominiums. As these changes take place, new problems arise. Bars, restaurants and hotels line the roadways. As these areas expand, they move closer to our residential neighborhoods, exposing sounds of loud music, traffic and machinery to adjacent homes. If gone unchecked by the local governments, the quality of life of the residents will decline.

When an agency begins receiving noise complaints, often from a single complainant, it is very easy to classify that individual as overly sensitive, or even a chronic complainer. But the problem goes much deeper than that. We must look at several issues to fully understand the magnitude of the problem of noise. We must first understand the difference between sound, and noise.

There are physical and psychological effects of noise on individuals. Sleep deprivation can have devastating effects on people. People have been driven to drastic measures as a result of stress brought on by a noise complaint. Do the rights of individuals to not have their lives interfered with by noise, take precedence over other individuals rights to conduct business for profit?

The goal of this research paper is to bring about a better understanding to law enforcement the need to properly train officers who are given the responsibility of enforcing noise ordinances in Florida. Literature reviews are used to provide a basic understanding of noise, and its effects on communities. Previously documented research will assist in exposing the detrimental effects of noise from a psychological, as well as a physical stand point. Studies of noise conducted by various sources will be used to demonstrate the need for proper enforcement. The director of Rutgers University, College of Environmental Science was very helpful with technical assistance.

Research Problem

Noise ordinance enforcement in most communities is not a high priority. Most communities in Florida have a noise ordinance or code in one form or another. However, enforcement is something we do not practice on a regular basis unless a complaint is received. Once the complaints begin, we are charged with a task of enforcement. In many agencies the officers may not be properly prepared to take an enforcement action that will result in a strong case for the prosecution.

Currently there are many very different noise ordinances throughout the state. These ordinances or codes have broad differences. Some are based simply on a nuisance statement, while others are performance based. Performance based ordinances have specific sound level guidelines which after taking a sound level reading, clearly state what is, and what is not a violation.

When a local government chooses to use a performance-based type ordinance, the personnel assigned to the enforcement of the ordinance have very little, or no training in the use of sophisticated measurement equipment. In these situations the measurement equipment can vary greatly. There are sound level measurement devices that are of a high quality, affordable, and with some instruction on the operation, are relatively easy to use. The instruments used for measuring sound vary a great deal in cost, as well as quality. This research will examine instruments that are available, and which ones have proven to be dependable and accurate. Many ordinances are written in a manner that a very specific type of decibel meter would be required for proper enforcement. Yet, these same jurisdictions do not possess the equipment required to enforce their own ordinances. In many cases they find that equipment this specific, is just not affordable. In other cases a city will purchase a decibel meter which is so difficult to use, and they later find it to be money wasted.

As Florida continues to grow, so will litigation of cases involving noise ordinance enforcement. It is for this reason that law enforcement administrators must ensure that enforcement is taken seriously. This research will attempt to answer the following questions concerning noise ordinance enforcement.

- 1) At what point does sound become noise?
- 2) Is there a need for proper noise ordinance enforcement?
- 3) Do current noise ordinances have a realistic impact on our communities?
- 4) Do agencies provide proper training to personnel assigned to noise ordinance enforcement?
- 5) Would mandated guidelines for noise ordinance enforcement be beneficial to communities?

Background

With the addition of loudspeakers, music more readily crosses from one property line to another. This can interfere with peace and tranquility of a community. The United States Supreme Court recognized the rights of residents to maintain their privacy. As early as 1949 it recognized local government's duty to regulate, and enforce laws protecting individuals from the invasion of amplified music. The court stated, "in his home or on the street he is practically helpless to escape this interference with his privacy by loud speakers except through the protection of the municipality." (Kovac v. Cooper, 336 U.S. 77, 87 (1949))

The Florida Constitution, states that "it shall be the policy of the state to conserve and protect its natural resources and scenic beauty. Adequate provisions shall be made

by law for the abatement of air and water pollution and excessive and unnecessary noise.”(Florida Constitution, Article II, Section 7)

Sound Wave Measurement

Sound waves are a series of compressions and refractions within a medium. There are two components of sound waves, intensity and frequency. Intensity is determined by the amount of energy in a sound wave. This contributes to the loudness as perceived by the human ear. The intensity, or sound pressure is reported and measured in decibels (db.) (Zwerling, 1996). The decibel scale is similar to the Richter scale in the respect that they are both logarithmic. (When there is an increase of three decibels of sound pressure, humans perceive a 10-decibel increase as a doubling of the loudness.) Frequency is measured by how fast the sound waves are moving. This determines the pitch of the sound. The term Hertz (Hz) is used to report the measurement of frequency. Frequency is measured in cycles per second. (Zwerling, 1996)

Most ordinances have it written into them that require measurement with a decibel meter be taken on the A-scale. The reason for this is that the A-scale is designed to mimic that of human hearing. When a measurement is taken with a decibel meter on the A-scale, the result is a single number for measurement that would be closest to the way the human ear would perceive that particular source. A single number of measurements are then reported, such as 65db.

There is a recent interest in areas of Florida to allow enforcement officers to take sound measurements with meters using the “C” scale. The “C” scale weighting system allows the sound meter to pick up low frequencies. These are the intrusive sub-woofer type of bass sounds that can penetrate structures and result in physical sensation. This type of base is not readable using the “A” scale. (Zwerling, 2000)Most quality sound meters are already equipped with “C” scale weighting, and can be changed from “A” to “C” with a simple switch. When properly applied the “C” scale is a valuable tool in sound enforcement.

Methods

Mail surveys were conducted with State Attorney’s throughout the state, to determine their opinions of what is proper to present a clear and convincing case in the courts. The survey consisted of six questions. (Appendix A) It was sent to all of the State Attorney’s Offices representing each judicial circuit.

The paper also examines the two most common types of noise enforcement codes. The first being the nuisance codes. The second are performance codes. Nuisance codes have in some cases been found to be unconstitutional. This is due to their lack of specific wording, and not clearly stating what in fact is a violation. The performance based codes are codes which have more often been upheld by the courts. They are based on a very clear and specific statement of what is a violation. Performance codes contain very specific guidelines for enforcement. They usually also contain a table which will state the allowable decibel levels. (Appendix B)

The proper preparation and presentation of a case is a major basis of this research paper. There are many factors to consider when investigating a noise complaint. One of the questions asked most often, is how do you determine what noise is coming from the source of the complaint, and what noise is coming from an additional outside source, such as traffic. These questions will be answered, in a very simple and clear manner. Much of the sound measurement instruction was found in previous research conducted

by Department of Environmental Sciences at Rutgers University as well as literature reviews.

Results

Survey Results from State Attorney's

The response to the mail survey was positive with a 68% response to the survey. The responses will be broken down by question.

- 1) What points do you look for to prosecute a noise violation? Note: Respondents to question one in some cases provided multiple answers.
 - a. 54% agreed that previous warnings, or past problems were important for prosecution.
 - b. 38% stated the level of noise was important. (db level)
 - c. 38% stated that the elements of the ordinance must be met.
 - d. 38% required the number of victims / witnesses present.
 - e. 23% stated that the area of the complaint was important, residential or business.
 - f. 15% said that the time of day of the violation was important.

- 2) Do you believe that it is better from a prosecution stand point to enforce an ordinance or code that sets forth specific decibel levels or one that is nuisance based?
 - a. 62% preferred an ordinance that is performance based.
 - b. 31% preferred a nuisance based ordinance.
 - c. 8% had no preference.

- 3) Have you found officer training to be adequate in cases that you have prosecuted?
 - a. 38% had no experience or were not aware of any cases for prosecution.
 - b. 30% said that officer training was adequate.
 - c. 15% said that officer training was not adequate for prosecution.
 - d. 8% believe that it depends on the type of case.

- 4) Are noise measurement devices used by officers noted by the court to be adequate?
 - a. 54% are not aware of any noise measurement device owned by their city or county.
 - b. 31% said that law enforcement does not use noise measurement devices.
 - c. 15% have been found to be adequate.

- 5) Do Assistant State Attorney's receive any training to assist them in understanding sound measurement?
 - a. 100% stated that they received no training in sound measurement.

6) Would any officer training assist you in prosecuting a noise violation case?

- a. 69% stated documented training would be beneficial for prosecution.
- b. 31% responded that training would be of no help.

Physical Effects of Noise

Noise can affect people in different ways. It has been found that sleep interference occurs at an average night time sound level of 35db. It has also been determined that younger people are found to be less sensitive to sleep interruption by about 10db. (Suter, 1991) When measuring sound, and the effect of sound passing through barriers or walls, sound reduces by approximately 15db. Meaning that if sound were to be measured at 50db outside of a home, the db reading on the inside of the home would be approximately 35db. Thus allowing uninterrupted sleep. Unregulated noise has been proven to have serious adverse effects on people far beyond simple annoyance. Exposure to loud noise has resulted in uncontrollable stress which can result in mood swings as well as hormonal and nervous system changes in otherwise healthy subjects. (E.P.A. 1974) The stress, tension, and fatigue associated with long term exposure to noise has destroyed marriages, caused others to loose their jobs, and forced other to sell their homes at considerable losses. (Zwerling, 1996)

The Ordinance or Code

Very often it is found that police rely on nuisance ordinances for enforcement of a noise complaint. The reason is that in many cases the field enforcement of a performance based ordinance does not meet the need of the field officer. The equipment it not readily available or the officer does not have proper training to operate the equipment. This lack of training may also cause the officer to be uncomfortable defending the case in court.

There is wording that can be used in a nuisance based code that has been upheld by the courts. A standard of "plainly audible" has been held to be neither broad or vague. (State v Ewing, 914 P. 2d 549, Haw (1996)) This wording is clear and easily understood by anyone. The subjectivity has been removed. The following standard can be used in an ordinance to address a sound system: "plainly audible" means any sound that can be detected by a person using his or her unaided hearing faculties. When considering a workable ordinance for a residential or commercial area, simply apply the "plainly audible" wording using specific times and distances.

In many instances performance based codes or ordinances are written without input from experts in the field of noise or acoustics. Law enforcement is also not solicited for input. With a desire for continuity, ordinances are often copies from another jurisdiction. The result in many cases is the perpetuation of a vague or ineffective ordinance.

Several ordinances in Florida currently are based upon statistical averaging. (e.g., L10- the sound level which is exceeded ten percent of the time.) This type of ordinance requires very sophisticated equipment which is very expensive. There are still other ordinances which do not allow noise to exceed a specific level for a given period of time. An example of this would be an ordinance which states for example, the noise level shall not exceed X db, for a three minute commutative period in any sixty minute period. When an officer wants to enforce an ordinance of this nature it very difficult to prove that the source was above the limit for a specific period of time without measurement

equipment with a recorder built in. This type of equipment is also expensive and requires a full sixty minutes of sound measurement.

There are alternatives which are effective. An ordinance which states a specific db level that should not be exceeded when measuring a single incident that exhibits the everyday operation of the location in question. (Zwerling, 1996) Wording an ordinance in this manner would include noises such as a truck loading or unloading, or an annoying piece of machinery. This type noise may be relatively short in duration but they are included in an ordinance worded in this manner. (Zwerling, 1996)

There are several other considerations to look at when deriving a workable and enforceable noise ordinance. Agencies should develop a noise violation report form. This form needs to include relevant information such as date, time, calibration times, location, and person taking the reading. Another piece of helpful information is a diagram of the scene. This will give the prosecutor a much better understanding of the location when presenting the case to the courts. Weather conditions should always be stated in the report. Wind and temperature can all have effects on the readings the sound measurement equipment provide. Sound measurements should not be taken when precipitation is falling or on the ground, because the moisture can damage the sound meter. (Cowan, 1994) The report form should also include the type, and model of the equipment used for the sound measurement. (Appendix C)

Sound Measurement Equipment

Sound measurement equipment is manufactured in accordance with the American National Standards Institute (ANSI). (Cowan, 1994) In a case where a private party had continuously loud stereo, chances are they would not challenge a db meter purchased at an electronic outlet. A case made against a bar, with several prior complaints will probably challenge the sound measurement device. So it is important to use equipment that meets the industry standards. A good quality measurement device can be purchased with a calibrating device for about \$1000.00. This type of a device is relatively easy to operate with some instruction, and is reliable enough to withstand a challenge in the courts.

Typical sound level calibrators are small and can be handled with relative ease. Most come with an adapter to fit the meter to be calibrated. With most sound meters, the calibrator fits over the end of the meter. Then the calibrator is turned on. The sound meter must read within two db of the calibrators sound pressure given. Meaning if the calibrator is displayed at 114db, the meter must be within two db to continue the measurements. If the meter is out of the two db range, then the meter may be manually adjusted to come into compliance. All sound meters should be calibrated by the factory at least once per year.

Taking the Sound Measurement

The first step to taking a sound measurement is to determine the actual source of the noise. Walking around the source of the noise will be helpful when completing the diagram portion of the sound measurement report form. It will also provide you with better testimony should the case go to court. The report form should be filled out completely. The noise source should be described, and if the measurement taken represents a normal cycle of operation for the facility. (Zwerling, 1999) The instrument used for the sound measurement should be properly calibrated, and the results recorded. Noting the results of the field calibration is absolutely required for a valid sound measurement report form. (Zwerling, 1999)

There are several ways to measure residual sound levels in a residential neighborhood. The investigator can walk in the opposite direction of the source, away from the residual noise, or measurement may taken in a similar neighborhood with away from the source of the complaint. The person taking the measurement may use a barrier to block the source of outside noise. (Zwerling, 1999)

When taking the sound level reading, it is best to take a reading with the source off. This will give a reading of the background sound level. A reading of the ambient sound level should be taken with the source of the complaint on as well. To determine the difference between the ambient and background sound levels the table below can be used. (Cowan, 1994)

Table 1

Correction for Background Sound Levels.

Difference between Ambient and Background Sound Levels	Corrections Factor to be subtracted from Ambient Level for Source Level
3	3
4, 6	2
6- 9	1
10 or more	0

Measured in dbA

If the ambient noise level is less than 3 dbA higher than the background sound level, than the source level cannot be determined. In this case no violation can be substantiated. (Cowan, 1994)

When taking sound measurements the time of the measurement should last at least five minutes in duration. This will insure the measurements are accurate for the particular source in question.

Discussion

The subject of noise enforcement is a quality of life issue. An issue which some do not even believe to be a law enforcement issue. In some jurisdictions law enforcement is not given the responsibility of enforcement. In locations where law enforcement is charged with noise enforcement, we must go beyond the surface and examine the facts. The facts are that we have a responsibility to maintain the quality of life with the tools our communities give us. The ordinances or codes whether they are performance based or nuisance based must be enforced. If a community does not choose to restrict sound, then the ordinance should not exist.

If law enforcement administrators are charged with responsibility of enforcement of noise ordinances, then there is a responsibility that we provide the proper tools, and training to the officers expected to investigate these types of complaints. All too often officers expect officers to be able to complete a task, however difficult, without adequate training, or no training at all. The measurement of sound, is based in scientific fact. This is a science that without some training very few people understand. Yet, how many times do officers respond to a noise complaint and not have any real understanding of what they are measuring.

There are those who would argue that this is such a minor offense that it does not warrant too much of an investment in training. When a police officer becomes certified in this state to operate a traffic radar unit, the officer receives forty hours of mandatory training. Yet there is no requirement for officers who use sound measurement devices to make a case. I am not suggesting a forty hour state mandated course, however I do believe the research shows that some training should be required.

Sergeant Patrick Dooley has been with the Jacksonville Beach Police Department since 1991. He has worked in several areas to include patrol, detectives division, evidence technician, gang intelligence, field training officer and juvenile specialist. Pat is pursuing his Bachelor's degree in Criminal Justice from St. Leo University. He is also a graduate of the FBI National Academy, 228 Session.

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Appendix A

SURVEY QUESTIONS

State Attorneys

- 1) What points do you look for to prosecute a noise violation?

- 2) Do you believe that it is better from a prosecution stand point to enforce an ordinance or code that is sets forth specific decibel levels or one that is nuisance based?

- 3) Have you found officer training to be adequate in cases that you have prosecuted?

- 4) Are the noise measurement devices used by officers noted by the courts to be adequate?

- 5) Do Assistant State Attorneys receive any training to assist them in understanding sound measurement?

- 6) Would any documented officer training assist you in prosecuting a noise violation case?

Appendix B

Maximum Permissible Sound Levels

<u>Source Property</u>	<u>RECEIVING PROPERTY</u>		
	<u>RESIDENTIAL</u>		<u>COMMERCIAL</u>
	<u>7:00am - 10:00pm</u>	<u>10:00pm - 7:00am</u>	<u>All Times</u>
Residential	55	50	65
Commercial	65	50	65
Industrial	65	50	65

Appendix C

SOUND MEASUREMENT REPORT FORM

NAME/ADDRESS OF NOISE SOURCE:

DATE _____ DAY OF WEEK _____ TIME _____ am /pm.

Investigating
Agency _____
Investigating Officer _____
Name of responsible party notified _____

Description of noise source to be measured:

Description of property receiving noise

Description of Residual Noises, (fairly constant in nature)

Description of Extraneous Noises, (intermittent in nature, and not from source)

DESCRIPTION OF INSTRUMENT:

SOUND LEVEL METER _____ MODEL # _____ ANSI TYPE _____
SERIAL # _____ DATE OF LAST CERTIFICATION _____
SOUND LEVEL CALIBRATOR _____ WIND SCREEN USED (YES/NO) _____
WIND METER USED (YES/ NO) _____ TIME OF CALIBRATION _____

WEATHER CONDITIONS:

PRECIPITATION _____ GROUND WET _____ TEMPERATURE: _____
WIND VELOCITY _____ TIME TAKEN _____

NEIGHBORHOOD RESIDUAL NOISE MEASUREMENT:

TIME : START / FINISH	READING RANGE (dbA)	TYPE RESIDUAL	LOCATION OF MEASUREMENT/ COMMENTS
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MEASUREMENT OF TOTAL NOISE:

TIME : START / FINISH	READING RANGE (dbA)	CORRECTED (SOURCE) LEVEL	LOCATION / COMMENTS
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Noise Measurement Taken By:

Reviewed By:

INCLUDE SITE SKETCH ON REVERSE (Include source, walk around, and exact measurement location)