FS No. 37-089-0622

# Common Questions from Communities about Exposure to Environmental Noise from Military Training

## BACKGROUND: THE COMMUNITY PERSPECTIVE

While the sound of military activities, such as helicopter overflight or weapon firing evoke thoughts of safety and national security in some people, others find these sounds a nuisance or intrusive to daily activities. People in nearby communities can be startled by unexpected military sounds, and may not fully understand why such noise is necessary. Individuals often question the need for nighttime training or even any live-fire training at all.

**The individual response of a community member to noise depends on many factors that include:**

- Intensity or loudness of the sound;
- Duration or length of time they can detect the sound;
- Frequency or pitch of the sound;
- Repetition of the sound source;
- Time of day the sound occurs;
- Abruptness of onset or cessation of the sound;
- Fear of personal danger from the sound sources; and
- The extent to which people believe that DoD can control the noise.

Annoyance is largely subjective. In a modern environment of constant natural and man-made sounds, an individual's response to military sounds and their perception will vary depending on many factors. However, annoyance can be quantified and qualified.

**There is a growing public intolerance for sources of environmental noise, including military activities, expressing concerns about—**

- Interruption at work and school;
- Diminished privacy and quiet at home;
- Interrupted entertainment and conversation;
- Sleep disturbance;
- Property damage including broken windows; and
- Disturbance of wildlife, livestock, and pets.

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# *FREQUENTLY ASKED QUESTIONS*

**Q.** ***What is environmental noise?***

**A.** Environmental noise is the summary of noise pollution from the outside world, and is often generated by transportation, industrial, and recreational activities. Environmental noise produced by military training and testing activities (i.e., military weapons firing or weapons systems operations and aircraft) is often referred to within the DoD as Operational Noise. Thus, these terms may be used interchangeably.

**Q.** ***What are the adverse effects of environmental noise exposure?***

**A.** Environmental noise is categorized as sound levels below where hearing protection is required, but is high enough to produce other negative effects and/or interfere with quality of life. Adverse effects of noise may include annoyance, sleep disturbance, decreased scholastic performance, and speech interference. Note that some people can be greatly affected by a particular noise, while others experience no effects at all.

**Q.** ***What is the Army doing to address environmental noise?***

**A.** The Army addresses environmental noise through implementing the Installation Compatible Use Zone (ICUZ) Program. The center of the Program is the ICUZ Study. An ICUZ Study analyzes noise exposure associated with military training and testing operations and provides land use guidelines for compatibility. The goal in developing the ICUZ study is to help our neighbors understand the nature of noise emanating from the installation and how we can work together to better manage that noise in a way that ensures our military readiness. Other program elements consist of sharing information through public outreach to reduce noise impacts and avoid potential conflicts, as well as adopting effective procedures for handling noise inquires.

**Q.** **Who do I contact if I have a concern or complaint?**

**A.** Your installation's Public Affairs Office is generally the point of contact. Their contact information can be found on the installation's website and/or social media pages. Several installations also post notifications of training events.

**Q.** **Can noise levels be reduced in my house?**

**A.** Noise level reduction is highly dependent upon the noise source and the type of construction/building materials used in a structure. For aviation activity and small caliber (hand held) weapons, most building material(s) can reduce noise levels by 15–25 dB, depending on whether the windows are open or closed. Greater noise reduction may be achieved by caulking and filling exterior openings, installing sound-insulating windows and doors, and adding thermal insulation to outer walls and ceilings. However, this same mitigation technique **will not work** for noise generated by demolition, artillery, or tanks due to the low-frequency content (long sound waves).

**Q.** **How does noise shake my home?**

**A.** While some Army activities may seem to shake the ground, the vibration felt in your home is typically caused by air-borne sound waves that act on external surfaces of a home and causes walls, shelves, dishes, and loose windows to vibrate. Although it is true that certain military training (such as, the use of cratering charges by military engineers) will cause limited ground vibrations, the explosive weight is generally not large enough and the distance between civilian homes and the explosion too great to result in ground-borne-induced house vibrations.

**Q.** **Will vibrations from military noise damage my home?**

**A.** It is highly unlikely that vibration from military noise will result in structural damage to your home. Common events such as a gust of wind, children running through a house, a door slamming, or typical fluctuations in temperature and atmospheric pressure create strains on buildings that are comparable to or greater than those resulting from military activity.