



# **Union County Target Range Project**

## **Draft Summary Report Live Fire Test November 8, 2018**

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## Background

Union County held a public hearing for the Target Range project on Wednesday, October 24<sup>th</sup>, 2018 at the Union County Fine Arts Center. In the public meeting, it was suggested that a live fire test would be a useful tool in gathering more data to determine the effects of noise in the surrounding project area.

On Monday November 6, 2018, Nutter & Associates (contractor), the USDA-Forest Service Interdisciplinary Team and Jim Marchman (Union County Project Liaison) held a conference call to discuss a plan for the sound test. Some of the items discussed and decided in the conference call were:

1. Thursday November 8, 2018 was selected as the date for the live fire sound test at approximately 8:30 a.m.
2. Union County sheriff's Office would be asked to provide guns, ammunition, security and traffic control at site to conduct the sound test. Jim Marchman would follow-up with county and confirm this task by end of day (November 6, 2018).
3. Representatives from the Gun Club, Union County, USDA-Forest Service, Sheriff's office, Forest Stakeholders and local landowners would be invited to take part in the sound test.
4. Three sites were selected as listening stations:
  - Location 1: 178 Jonas Mountain Rd. off Hwy 180 near Loc#6: **34° 48' 35.06"N 83° 51' 12.81"W**
  - Location 2: 2900 Fain Branch Rd. near Loc#10: **34° 48' 48.43"N 83° 51' 14.72"W**
  - Loc#3 - Appalachian Trail closest point E of target range location **34° 48' 58.35"N 83° 51' 19.47"W**

A day before the live fire sound test, the Union County Sheriff's office confirmed they would be able to provide assistance and equipment (firearms to use during the test) for the date of sound test.

An email notice was sent out on November 06, 2018 informing stakeholders and public commenters of sound test date to provide an opportunity to participate as test was being conducted. People and groups contacted for this event were the Union County Commission liaison Jim Marchman, the Georgia Appalachian Trail Club, the Appalachian Trail Conservancy and everyone who had provided project comments up to this point in time.

## Methodology

- Listeners represented during testing included local residents, USDA-Forest Service employees, Union County Gun Club's members, and the Union County Sheriff's office.
- Participants were requested to be in position at listening locations by 8:30 a.m. as testing would start promptly due to nominal anticipated background noise and wind speeds for optimum test results.
- Two testing periods were conducted and set to begin at 8:30 and 8:45 a.m. respectively. A 2-minute delay was observed as an additional precaution to reduce the likelihood of random shooting that might be mistaken as part of testing.
- Prior to testing, it was learned that the Appalachian Trail listening location would not be accessible. Therefore only two sites were ultimately evaluated as part of this sound test.

- Observers were asked to record background noise observed prior to and during testing and to rate those sounds relative to the evaluation form provided.
- USDA- Forest Service Law Enforcement Officer and Union County Sheriff's officer's served as safety officer to coordinate the shooting activity.
- Cell phone coverage was adequate in the project area and coordinated shooting start and stop times.
- Calibers used for testing included a 40 caliber semi-automatic pistol and a 308 rifle.
- Period A included shooting 12 rounds with the 40 caliber pistol. Session began at 0830 with a 2-minute delay. A 3-minute shooting period followed from 0832-0835. When shooting was complete a text message was sent to notify each listening station that shooting had ceased.
- Following a 10-minute down time, Period B began at 0845 with a test message indicating start of the 2-minute delay followed by a second text at 0847signifying shooting to begin and when shooting ceased at 0850.
- During period B 5-rounds with the 308 rifle were discharged. Participants recorded findings and the evaluations forms were gathered by USDA-Forest Service personnel to summarize results.

### **Findings**

- Gun fire was heard at both listening location (#1 and #2) during periods A and B
- In location #1 (178 Jonas Mtn. Road) during both periods (A and B) average sounds were recorded as louder than a whisper on most listener forms with just two individuals recording sound louder than low conversational speech (Table 1).
- In location #2 the ambient sounds were consistently recorded as louder than low conservational speech or lower during both periods (A and B). Ambient sounds recorded by most listeners' included traffic and airplane noise.
- Period A and B listeners located at 2900 Fain Branch Rd. recordings were a bit inconsistent. Most listeners thought sound was less than low conservational speech while others felt sound was louder than projected conversational speech with two listeners recording sound louder than someone shouting. Ambient background noise recordings however were more consistent. No listener recorded sound greater than low conversational speech.
- This test was performed without sound barriers or additional sound mitigating features such as earthen berms, sound proof shooting structures etc. Additionally, testing times were purposefully chosen when winds speeds were predicted to be minimal and ambient sounds were anticipated to be less.

<b>Table 1: Participants summary notes from the live fire sound test (November 08, 2018)</b>			
<b>Listening Location</b>	<b>Comparison Ambient Sounds</b>	<b>Period A: 40 Caliber (12 rounds fired)</b>	<b>Period B: 308 Rifle (5 rounds fired)</b>
<b>Location #1: 178 Jonas Mtn. Rd.</b>	Birds, traffic, airplanes dogs barking- Louder than normal conversational speech	Gunfire heard. Louder than a whisper.	Gunfire heard. Louder than a whisper.
	Birds, traffic, airplanes - Not Louder than normal conversational speech.	Gunfire heard. Not Louder than a whisper	Gunfire heard. Not Louder than a whisper.
	Birds, low traffic, airplanes, dog barking - Louder than projected conversational speech.	Gunfire heard. Not Louder than a whisper.	Gunfire heard. Not Louder than a whisper.
	Birds, truck traffic, airplanes - Louder than normal conversational speech.	Gunfire heard. Not Louder than a whisper.	Gunfire heard. Not Louder than a whisper.
	Traffic, airplanes -Not louder than a whisper.	Gunfire heard. Louder than low conversational speech.	Gunfire heard. Not Louder than a whisper.
	Not Louder than a whisper.	Gunfire heard. Louder than low conversational speech.	Gunfire heard. Louder than low conversational speech.
	Generally quiet, birds, low intermittent traffic, low voices - Louder than a whisper.	Gunfire heard. Louder than a whisper.	Gunfire heard. Louder than a whisper.
<b>Listening Station</b>	<b>Comparison Ambient Sounds</b>	<b>Period A: 40 Caliber</b>	<b>Period B: 308 Rifle</b>
<b>Location #2: 2009 Fain Branch Rd.</b>	Birds, traffic, plane - Louder than low conversational speech	Gunfire heard. Louder than a whisper.	Gunfire heard. Louder than a whisper.
	Birds - Not louder than a whisper.	Gunfire heard. Louder than someone shouting.	Gunfire heard. Louder than projected conversational speech.
	Birds - Not louder than a whisper.	Gunfire heard. Louder than someone shouting.	Gunfire heard. Louder than projected conversational speech.
	Birds, traffic, cows, chickens, airplanes - Louder than low conversational speech.	Gunfire heard. Louder than a whisper.	Gunfire heard. Louder than low conversational speech.

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<b>Listening Location</b>	<b>Comparison Ambient Sounds</b>	<b>Period A: 40 Caliber (12 rounds fired)</b>	<b>Period B: 308 Rifle (5 rounds fired)</b>
	Birds, traffic, airplanes - Louder than low conversational speech.	Gunfire heard. Louder than a whisper.	Gunfire heard. Louder than a whisper.
	Birds, cars, cows, chickens, plane, plane flying over - Louder than low conversational speech.	Gunfire heard. Louder than low conversational speech.	Gunfire heard. Louder than low conversational speech.
	Birds, cows, plane overhead - Louder than low conversational speech.	Gunfire heard. Louder than low conversational speech.	Gunfire heard. Louder than low conversational speech.
<b>Appalachian Trail</b>	<b>Listening station not accessible. Not included as part of sound test.</b>		