

## Acceptable Noise Levels for Typical Outdoor Leisure Activities (Part I)

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**Abstract:** Throughout the Appalachian Mountain chain, entrepreneurs have capitalized on the outdoor sporting experience. Both summer and winter sports such as fly fishing, hiking, skiing and snowboarding are very popular. One popular emerging activity is skeet, trap, and sporting clays shooting. Major tourist enterprises are developing this opportunity for both tourists and local residents. To meet the increasing demand, ranges are being constructed throughout the region from Alabama to Maine. There are approximately 12 ranges in North Carolina and 10 in east Tennessee. Although these activities have had few opponents, skeet, sporting clays, and trap establishments have received noise level complaints. An experiment was designed to test noise levels at one skeet, sporting clays, and trap course situated on a resort. Range management specified that only standard target load would be allowed. Initially data was collected at the noise source and it was determined that reports from 12 and 20 gauge shotguns were statistically insignificant. However due to the trap station being partially enclosed and the skeet station being open there was a significant difference between the trap (85.85 dBA) and skeet (74.95 dBA) stations. Three hundred and thirty samples were taken at the closest guest activity between August 2015 and March 2016. The noise level averaged 53.7 dBA ( $\sigma = 7.43$ dBA). During the third phase (January to March 2016) 44 samples were obtained at the main resort lodge. At the lodge noise level averaged 31.9 dBA ( $\sigma = 5.45$ ). Noise levels are well below the nuisance level. These observations were significantly below the ambient noise. Guests at both locations were asked if they had noticed the reports. Only about 5% noticed the reports and of that fewer 1% objected.

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