

## **Effect of the Mosquito on the behaviour of guide dogs**

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There are electronic devices that emit ultrasound which are designed to discourage gatherings of young people and some of these operate at frequencies within the auditory range of the dog. If these devices influenced the behaviour of guide dogs there could be safety implications for the guide dog owner.

In order to investigate this, the young person deterrent “Mosquito™ Teenage Deterrent” (Compound Security Systems) was tested. The Mosquito™ has an effective range of 15 to 20m (Compound Security Systems, undated) and can be set to emit a continuous sound, measured within our laboratory environment to be 16.8 kHz and either 74 dB or 88 dB (dependant on the setting chosen) at 1m from the device.

The device was tested in an outdoor environment previously validated for use when assessing canine behaviour. The device was set-up in a semi-closed area constructed of fence panels at right angles to each other. The device was fitted to the fence at a height of 1.68m and angled downwards by approximately 5°. The handler walked the dogs to the test area and stood with the dogs at a point 2.0m perpendicular from the device. When testing with the device on, it was turned on before the first dog in the group arrived and turned off after the last dog in the group left the area. The handler and dog remained at the set point for 2 minutes and scoring commenced when the handler had reached this point. Dogs were exposed to the test area on 3 occasions in random order, when the device was off, on at the lowest setting (74 dB) and on at the highest setting (88 dB) and scored in accordance with behaviours described in Table 1.

Table 1. Scores and corresponding behaviours used for assessing the Mosquito™ ultrasonic device.

Score	Description
1	Dog appears relaxed and settles quickly. Dog may lay, sit or stand or may sniff and look around, but does not appear agitated.
2	Dog quite relaxed but may appear slightly restless. Lays sits or stands and may also sniff and look around. Perhaps some infrequent vocalisation.
3	Dog more restless, may sit or lay for short periods but will not settle, will walk around for a large proportion of the time. More frequent vocalisation and interest in the source of the sound.

The 24 Labrador, golden retriever and German shepherd dogs (10 male, 14 female, age range 1.0 to 8.0 years, mean 4.1 years) used in the study were all housed in kennels and included bitches in season, entire dogs and spayed bitches. Data were analysed and values were considered significant when  $P < 0.05$ .

There was no significant difference between the behaviour of dogs exposed to the Mosquito™ at either the lowest or highest setting or the control. More dogs scored a ‘1’ when the device was on compared with the control. The dogs responded to a low frequency beep which the device produced to signify that it was on. However the response was only an ear twitch or small head movement. There was no association between the age, breed or sex of the dogs and the scores they received ( $P > 0.05$ ).

The device in the study was placed at a height that was closer to the dog than the device would be on a building in a real situation, where a working guide dog would encounter the sound. Therefore a working guide dog would be exposed a lower sound pressure level than the dogs in this study. Further observations of guide dogs working past devices in urban environments could provide results that more accurately reflect guide dogs’ reactions when encountering the sounds, but overall, the results suggest that the device does not have an

adverse effect on dog behaviour, therefore it seems unlikely that there would be an impact on the working ability of a guide dog.

Compound Security Systems (Undated) Installation Instructions Mosquito MKII.  
[www.compoundsecurity.co.uk/downloads/Mosquito\\_MKII.doc](http://www.compoundsecurity.co.uk/downloads/Mosquito_MKII.doc). Accessed August 30, 2008