

The Impact of Noise on Horses

A horse's range of hearing is greater than a human to higher frequencies (over 33kHz in the horse compared with under 20kHz in humans) although a horse may not be able to hear the lowest frequencies audible to humans¹. Hearing ability is very important to survival for a horse and its ears can pick up sound at a lower volume and a greater distance than will be detected by a human. As with humans, there is variation in quality of detecting sound at the extremes of the range with some horses hearing much better than others. Age may decrease aural function, as may certain health conditions.

Horses are prey animals and their usual response to danger is flight. Their instincts will assume that unexpected noises are a predator and a threat so they will flee first and check later. A horse will hear a sound, quite possibly not detected by a human near it, may freeze (to remove its own noise), then spin and run away from the noise. Depending on temperament and the perceived threat level, the horse may stop and turn back to the source of the noise to check whether further action is needed, or may carry on running. A horse may also spin to identify the direction of the threat and a horse submitting to control of the rider not to bolt may plunge or spin around in a small area while trying to see the threat.

There is a danger to a handler or rider who may be knocked over or thrown during the spin or bolt, and even if staying with the horse, may not be able to stop before losing contact or encountering another hazard. While in flight mode, a horse is difficult to control and could run into a dangerous situation which it would normally avoid (such as traffic).

Horses can become difficult to handle in conditions where there is a continuous level of noise because it may mask other sounds that could be a threat. This may be a reason for unsettled behaviour in wind or by the sea or heavy traffic, especially in an unusual environment where the horse is not comfortable with the general threat level.

Variation in their temperament, the nature of the environments they have known and their confidence will affect how horses respond to a noise. Generally, sudden noises are likely to trigger flight responses with the severity of reaction increasing with proximity of the noise. The abrupt reaction could be dangerous to a rider, carriage-driver or handler, and potentially to others in the vicinity if the horse cannot quickly be controlled.

Horses become accustomed to noise, whether short sharp sounds, continuous noise or discontinuous noise (e.g. gunshot, motorway, railway train). Police and military horses have proven their resilience to noise but the training involved is highly skilled and the horses are very carefully selected. Such training

¹ Saslow, C. A. (2002) Understanding the perceptual world of horses. *Applied Animal Behaviour Science*, 78: 209-224.

is beyond the scope of most horse owners therefore it should be assumed that noise is likely to be distressing to horses which are not accustomed to it. If a human may be disturbed by a noise, then so may a horse be disturbed, but a horse will be concerned about many sounds which humans are able to recognise and dismiss instantly.

Temperament and experience will affect whether individual horses can become habituated to noise or whether their distress level continues or rises. It cannot be assumed that a noise that is accepted by one horse will be accepted by all.

Environments which are likely to produce noise should be avoided in the vicinity of routes used by riders and carriage-drivers, particularly off-road byways, bridleways and minor roads which should be protected for quiet recreation and exercise. Sudden loud noises should particularly be avoided, e.g. bird-scarer gas-guns.

The impact of noise on horses can be reduced by acoustic barriers; by vegetation or buildings. Where noise near horses is unavoidable, mitigation through the range of sound for horses should be considered through use of acoustic barriers where possible.

Considering how similar a noise may be to a natural predator is a useful guide to whether a horse will be troubled by it. A quiet rustling is likely to have greater impact than a high speed train because the former could easily be associated with a predatory animal moving into position to attack whereas a train is a continuous steady loud noise that can be heard from far away and the majority of horses these days have been exposed to and accepted commonly occurring mechanical noises from their birth. There are many situations of horses unperturbed by trains or motor traffic, even for the first time, in fields or on bridleways alongside a railway or motorway. Because a human hears a sound, it is often assumed that this is what is troubling a horse, but the horse may have heard that sound long before and already dismissed it as not a threat, but could be reacting to a movement that a human has not seen, possibly even behind it.

IMPORTANT This guidance is general and may not apply in all circumstances. The Society recommends seeking advice specific to a site where appropriate.