

# Horses and fireworks

Findings of a short horse owner survey



Redwings Horse Sanctuary  
December 2024

## Executive summary

Redwings' Horses and Fireworks online survey was accessed by visitors to the 'Your Horse Live' event between 8<sup>th</sup> – 10<sup>th</sup> November 2024. The purpose was to gain insight into the impact of fireworks on horses by collating the experiences of those who care for them.

A total of 179 complete responses were received from visitors to the Redwings stand over the three days. Only responses from those who were over 16 years of age, based in the UK and cared for at least one horse were eligible.

More than 80% of respondents worry about the impact of fireworks on their horse(s), with almost 60% saying they worry 'a lot'. More than half report that fireworks are frequently let off near their horse – either at traditional times of year, or throughout the year. Less than 4% of respondents say fireworks are never let off near their horse.

More than three-quarters of respondents take steps to try and protect their horse from the impact of fireworks, yet almost half report that their horse has been adversely affected by fireworks, with more than a quarter saying they have seen their horse affected on more than one occasion. The effect of fireworks seen on horses include becoming hyperalert and agitated (65%), becoming injured or ill (21%), escaping (8%) and even losing their life (4%).

More than 97% of respondents want to see better regulation of fireworks and 92% feel that more use of low-noise fireworks and alternatives to fireworks would benefit horse welfare. Almost 80% feel that the issue of fireworks can cause division in local communities while fewer than 1 in 10 believe that people should be able to buy and use fireworks freely.

While the survey was a snapshot of horse owner views taken over one three-day event, the data provides valuable evidence of the widespread impact of fireworks on the equestrian sector. With around 850,000 equines known to be living in the UK, these insights suggest fireworks are a significant issue, involving risk to both horses and their owners.

Equines are just one species known to be commonly reactive to traditional fireworks, and the adverse impact of displays have far wider implications, affecting other domestic pets, farm livestock, zoo animals and wildlife. Fireworks can also have a profound effect on people, including military veterans and others struggling with PTSD, those with sensory conditions such as autism or hyperacusis (debilitating sensitivity to loud noises), young children and the elderly. Fireworks also contribute to air pollution and plastic waste, can cause serious fires and burn injuries and are increasingly used in incidents of antisocial behaviour.

This report supports other data reflecting the impact of fireworks on horses, including data gathered by the British Horse Society which shows that in just three years between March 2021 and March 2024, almost 900 incidents involving horses and fireworks were recorded. These included 22 equine fatalities, 92 injured horses and 28 injured people. However, cases are known to be considerably under reported, meaning the number of actual incidents will be much higher.

These findings contribute to a growing body of evidence that indicates widespread public support for a comprehensive review of current regulations around the sale and use of fireworks in England and Wales. It is hoped they will encourage significant and prompt steps will be taken to reduce the many detrimental impacts of fireworks and find a more appropriate balance between enjoyment of fireworks and the wellbeing of both animals and people.

# Introduction

Redwings Horse Sanctuary has been working to raise awareness of the impact of fireworks on horses for almost two decades.

A fire at one of the charity's rescue centres in 2012 was caused by a stray firework landing on a pallet of shavings. The blaze was just a few metres from a wooden barn housing a group of donkeys. Thankfully, a member of staff carrying out a timely evening check alerted emergency services and the attendance of three fire crews meant tragedy was avoided.

Sadly, not all Redwings' residents have been as fortunate. In 2014 a rescued mare had to be euthanised after sustaining a major injury while bolting in distress as fireworks were let off nearby. Two years later, two veteran ponies in the same quiet herd lost their lives after a firework display was held close to their paddock. One developed such severe colic after the display that he simply had to be euthanised where he lay to end his suffering. One of his companions was later found to have developed such serious damage to his elbow that the pain could not be brought under control and euthanasia was the only humane option. The vet who tried to treat the ponies and had to carry out both euthanasias that night says her experience was harrowing and fundamentally changed her feelings about fireworks.

Redwings is not alone in having first-hand experience of the very real risk fireworks pose to naturally fearful animals like horses. Incidents recorded by the British Horse Society<sup>1</sup> reveal that in the three years from March 2021 to March 2024 a total of 884 incidents involving horses and fireworks were recorded. These included 22 equine fatalities, 92 injured horses and 28 injured people. However, these figures are affected by significant underreporting and the true picture is likely to be even more serious.

Many other animals are also affected by fireworks. Evidence suggests widespread impacts on dogs, cats, other pets, farm livestock, zoo animals and wildlife. Many people also experience distress during and often after displays, including military veterans and others struggling with PTSD, those with sensory conditions such as autism and hyperacusis, young children and the elderly.

While strict regulations govern the sale, use and possession of fireworks in Northern Ireland and new legislation was introduced in Scotland in 2022, Westminster has consistently pushed back at calls for tighter regulation of fireworks in England and Wales.

Ministers routinely cited the Animal Welfare Act as a mechanism to protect animals from the impact of fireworks displays. However, a roundtable report<sup>2</sup> published in April 2024 concluded that the Act could not be applied in these cases, a finding supported by the fact the Act has in fact never been used in such a way.

In October 2024, Redwings formalised its work on the issue of fireworks by launching the Keep Horses In Mind campaign. As part of the campaign aims, the charity is keen to help gather more evidence of the experiences and views of the equestrian community when it comes to fireworks and horses. This report is the result of one such project to increase understanding of the many, often challenging factors involved in protecting horses from the sometimes catastrophic effects of fireworks, while allowing people to celebrate traditional and social events.

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<sup>1</sup> The British Horse Society (accessed 4<sup>th</sup> December 2024) <https://www.bhs.org.uk/go-riding-and-learn/record-an-incident/incident-report-form/>

<sup>2</sup> Redwings Horse Sanctuary (2024) *The Animal Welfare Act and Fireworks* [https://www.redwings.org.uk/sites/default/files/2024-05/Fireworks%20and%20the%20AWA\\_V8.pdf](https://www.redwings.org.uk/sites/default/files/2024-05/Fireworks%20and%20the%20AWA_V8.pdf)

# Survey overview

- **Development**

The Horses and Fireworks survey was created for use on Redwings' stand at Your Horse Live 2024. Your Horse Live is an annual three-day equestrian event held at Stoneleigh Park in Warwickshire each November that attracts more than 23,000 horse owners and enthusiasts from across the UK. The survey was designed to be short and straightforward for people to complete during their time at a busy event.

A total of 17 questions were uploaded onto Alchemer survey software. Logic meant that respondents would be asked a maximum of 16 questions. Some questions were mandatory to ensure consistency in the information provided and to support further analysis.

A range of question types were used to collect both quantitative and qualitative data, though quantitative data was prioritised to support speed of response. Two questions used an open text format and comment boxes were available for many questions.

Respondents were required to be over 16 years of age, living in the UK and caring for at least one equine. Four respondents were disqualified as they didn't fulfil these criteria. Survey responses were anonymous, and no personal data was collected.

- **Distribution**

The survey was disseminated solely through Redwings' stand at the Your Horse Live event in Warwickshire, held from 8<sup>th</sup> – 10<sup>th</sup> November 2024.

Respondents used a QR code to access and complete the survey on their smartphone. Every person who completed the survey was allocated a prize by drawing a numbered ticket which determined whether they received a higher or lower value item.

The prizes were designed not only to increase the number of survey responses, but to appeal to a broad range of equestrians beyond those motivated to take part because of the topic.

- **Limitations**

The survey was self-selecting, though incentives helped to attract a wide range of respondents. The survey was generally completed while on the stand via a smartphone, limiting the scope for in-depth open text responses, however the survey was kept short to avoid off-putting time pressure.

Your Horse Live is held in Warwickshire, making it more likely that attendees may be from the midlands. However, the event is known to attract visitors from across the whole of the UK, and responses were collected from people based in Wales, Scotland and Northern Ireland.

- **Results**

A total of 196 survey responses were received. Four were ineligible due to being under 16 years of age, based outside the UK or not having a horse in their care. Thirteen partial responses were also excluded from the final dataset.

Analysis was subsequently conducted on the 179 complete and eligible responses and findings are reported in the next section.

## Survey findings

The following section is the result of initial analysis of the survey dataset. The results are reported in the order the questions were asked. Logic settings were applied where relevant, meaning respondents were asked or not asked certain questions based on their previous answers.

The report generally refers to an owner and 'their horse' for simplicity, but many owners have more than one horse in their care at risk of being affected by fireworks.

Further analysis is planned to help gain more in depth insights from the data but it is hoped these early findings will add a useful perspective to wider discussions around the use and impact of fireworks and give voice to the equestrian community within current debates.

Quotes that appear in this section are taken directly from open text comments provided as part of survey responses.

### How do you feel about the possible impact of fireworks on your horse?

More than 80% of respondents said they worry about the impact of fireworks. Well over half reported that they worry 'a lot' while just under a quarter said they worry 'a little'.

Of the 19% who didn't worry about the impact of fireworks on their horse, the most common reason selected was that their horse wasn't bothered by them.

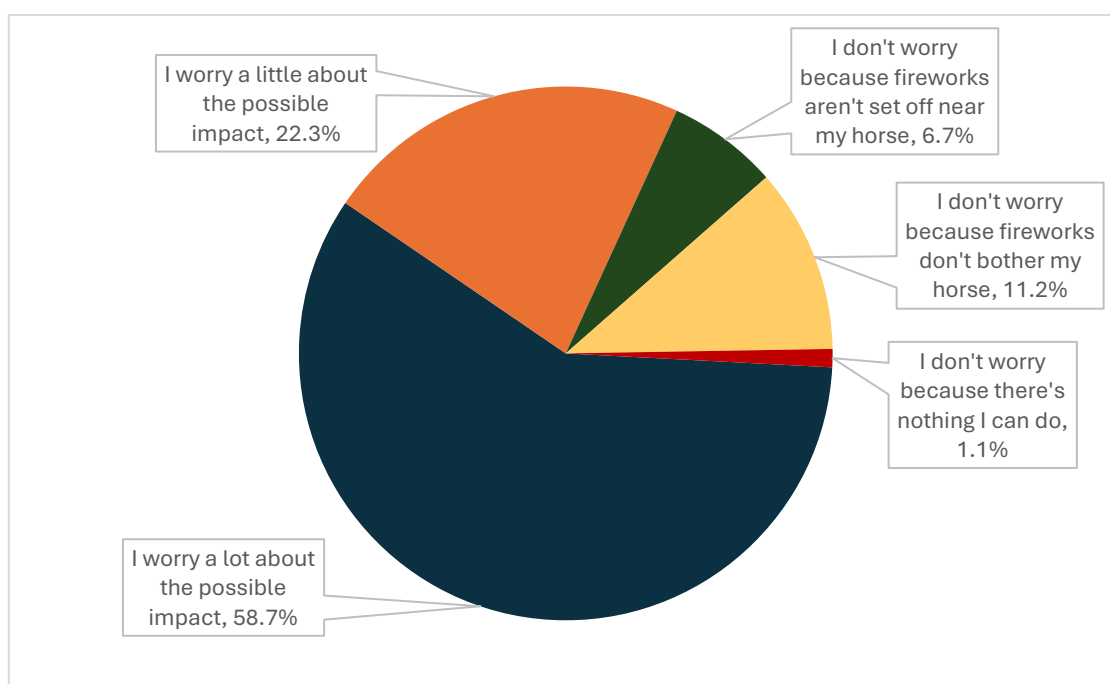


Fig.1 Levels of concern around fireworks (n=179)

"I feel extra pressure because I am responsible for other people's horses"

## What are your thoughts about the impact of fireworks on your horse?

This question was asked of the 143 (81.0%) of respondents who had said they worry a lot or a little about the impact of fireworks on their horse in answer to the previous question. They were invited to share up to three factors that influenced their concern about fireworks using open text boxes so answers were entirely unprompted.

The question wasn't mandatory, but 143 respondents submitted at least one response, 130 submitted two responses and 105 people used all three text boxes.

Simple thematic analysis found that the most common concerns were around the potential distress caused to horses, with words such as 'stress', 'fear' and 'panic' used in 78.4% of comments. The possibility of resulting physical harm was cited by 81.8% whose comments covered themes of injury, illness or death.

Several people mentioned the aspects of fireworks themselves that were the cause of concern. By far the majority of these were around the noise of fireworks, compared to lights or smell.

Additional areas of concern mentioned by several respondents included the risk of fire, debris from spent fireworks and risk of people being injured.

Area of concern	n=	%
Distress (stress/fear/spooking etc)	112	78.4%
Injury	90	62.9%
Colic	25	17.5%
Death	8	5.6%
Escape	10	7.0%
Noise of fireworks	45	31.5%
Bright lights	4	2.8%
Smell	1	0.7%
Risk of fire	23	16.1%
Firework debris	17	11.9%
Risk of human injury	6	4.2%

*Table 1: Thematic analysis of key areas of concern around fireworks*

"My horse is very anxious and will run herself into the ground at loud noises like this"

## Has a horse in your care ever been negatively impacted by fireworks?

A total of 47.5% said they knew their horse had been negatively impacted by fireworks with just over half reporting that either their horse hadn't been affected as far as they knew, or they weren't sure.

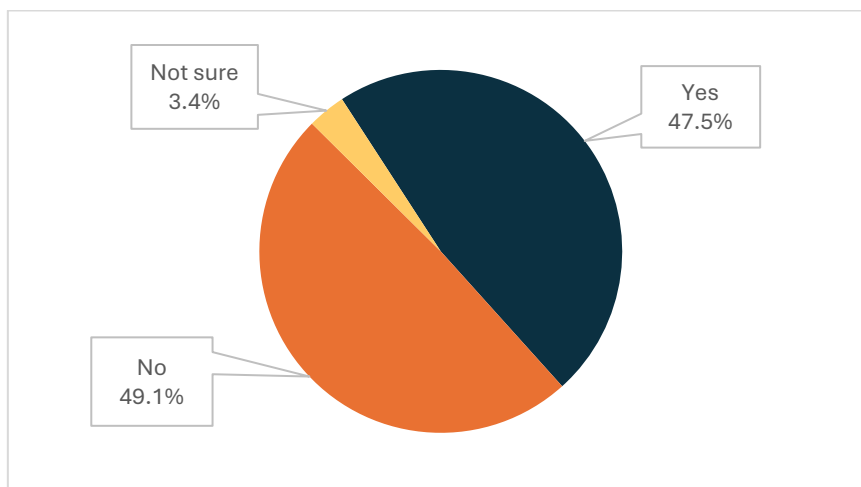


Fig.2 Experience of horses being affected by fireworks (n=179)

Of those who said their horse had been negatively affected by fireworks, 22.2% said it had happened on one occasion, with 25.6% reporting adverse impacts on more than one occasion.

The following four questions were asked of the 85 respondents who had experienced a horse in their care being negatively impacted by fireworks to gain more insight into the incidents.

## Were you aware that fireworks were going to be let off close to your horse?

More than three quarters of owners (76.5%) whose horse had been affected by fireworks had not been aware that a display was due to be held nearby. Less than 5% had benefited from direct contact to tell them a display was planned.

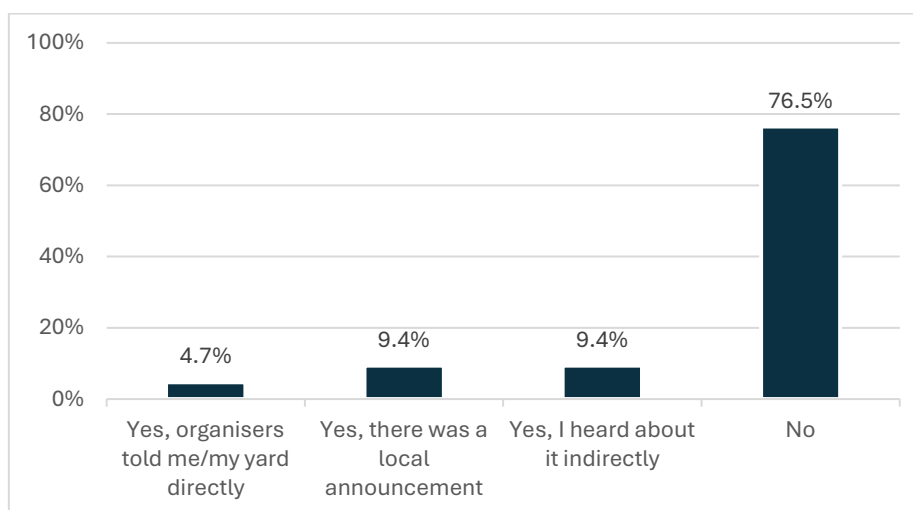
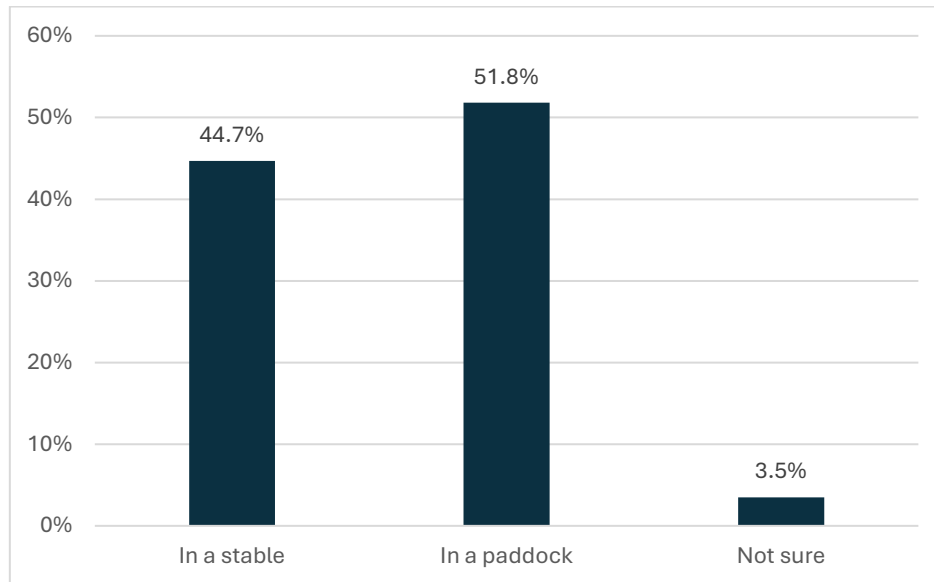


Fig.3 Awareness of planned firework displays (n=85)

## Where was your horse at the time fireworks were being let off?

Many owners will choose to ensure horses are stabled if they know fireworks are likely to be let off nearby. This inhibits a horse's flight response to try and reduce the risk of bolting and the associated risk of injury, exhaustion or escape, but evidence shows stabled horses are still at considerable risk of distress and injury or worse.

Slightly more horses were reported as being in a paddock or other open area at the time fireworks were let off, compared to those contained in a stable or other building.



*Fig.4 Horse's location when fireworks were let off (n=85)*

## What effect did you notice fireworks had on your horse?

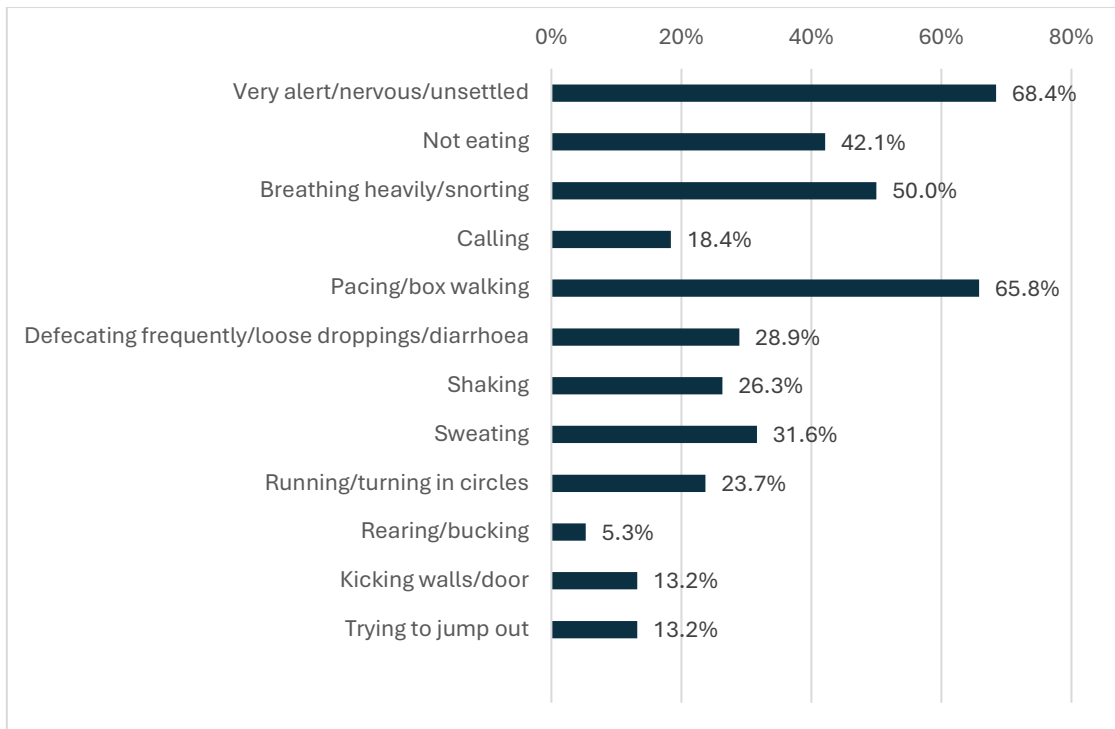
A checklist allowed people to indicate which behaviours they observed in their horse that they believed were the result of fireworks being let off nearby. The list varied according to whether the horse had been in a stable or paddock at the time, based on the response to the previous question. The variation to the two lists reflected the different behaviours a horse could have exhibited in that environment. In both cases respondents could select as many options as applied.

The most common behaviour whether horses were stabled or turned out was to appear hyperalert, nervous and/or unsettled.

Pacing or box-walking (a repetitive behaviour associated with high levels of stress) was observed in almost two-thirds of those affected by fireworks while stabled and half were reported as breathing heavily or snorting.

Just over 13% of horses were seen showing signs of trying to jump out of their stable, compared to one in five trying to escape from their paddock, showing that horses suffer distress to a point where they are willing to put themselves at risk in order to escape fireworks, regardless of whether they are stabled or in a paddock.

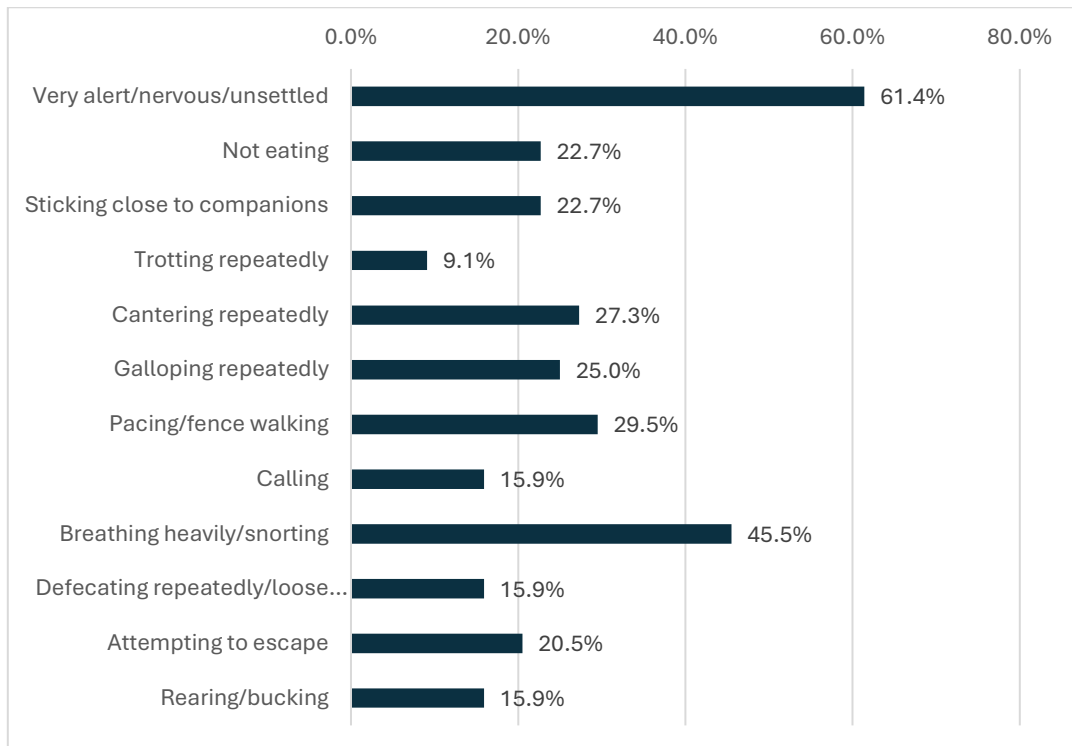




*Fig.5 Effect of fireworks on stabled horses (n=38)*

Slightly fewer horses exposed to fireworks while in a paddock were reported as breathing heavily or snorting, though in many cases this could have been the result of trotting, cantering or galloping repeatedly.

Just under 30% were reported as pacing or fence-walking (a stress-related behaviour similar to box-walking seen in stabled horses).



*Fig.6 Effect of fireworks on horses that were turned out (n=44)*

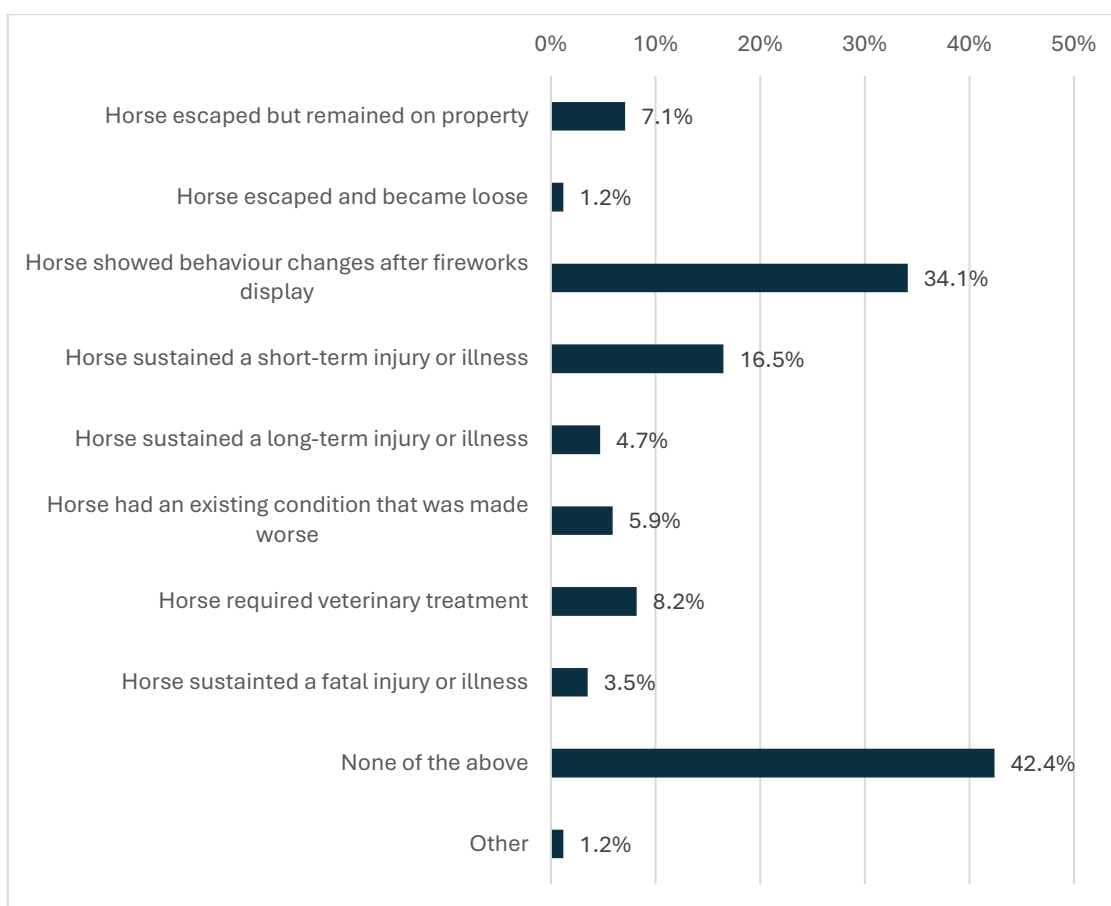
## Did you experience any of the following outcomes?

To determine the impact of fireworks on horses beyond the duration of the display itself, respondents who had reported their horse was affected by fireworks indicated which sustained outcomes from a checkbox list they had experienced.

More than half (57.6%) reported longer lasting physical and/or psychological effects in their horse after fireworks were let off nearby.

The most common effect was a continued change in behaviour, noticed in more than a third of impacted horses. Around one in six horses sustained a short-term injury or illness and one in ten sustained a longer-term injury or illness or had an existing condition that was made worse through their experience of fireworks. Just over 8% required veterinary treatment.

Multiple options could be selected to reflect the outcome. One respondent who selected 'Other' reported being kicked in the face by their distressed horse.



*Fig.7 Impacts lasting beyond the duration of a firework display (n=85)*

“My friend lost her horse due to private fireworks near stables.  
Horse spooked, fell and broke pelvis in stable”

## How often are fireworks let off close to where your horse is kept?

More than half of all survey respondents said fireworks are let off frequently close to where they keep their horse. Just over 40% reported that frequency to be around traditional dates, such as Bonfire Night, Diwali, New Year's Eve and Chinese New Year. However, more than one in eight respondents said their horse was frequently exposed to fireworks not only around traditional dates, but also at other times of year.

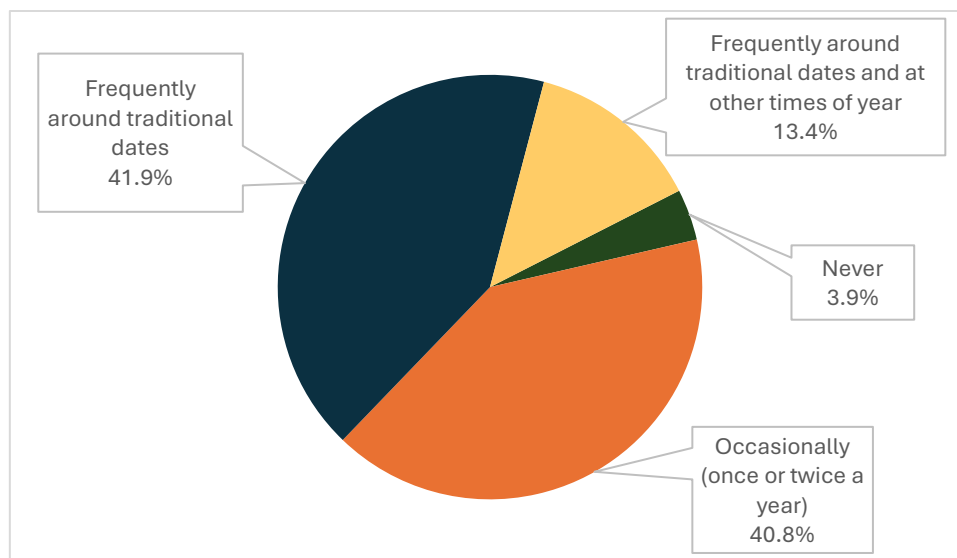


Fig.8 Frequency of firework displays held close to horses (n=179)

## What type of firework displays tend to be held near to your horse?

Similar numbers of respondents reported either private firework displays or a mix of private and public displays being held near their horse, meaning almost 70% were affected by private displays in total.

Just under a quarter were only affected by organised displays while less than 3% reported low-noise displays being held near to where they kept their horse.

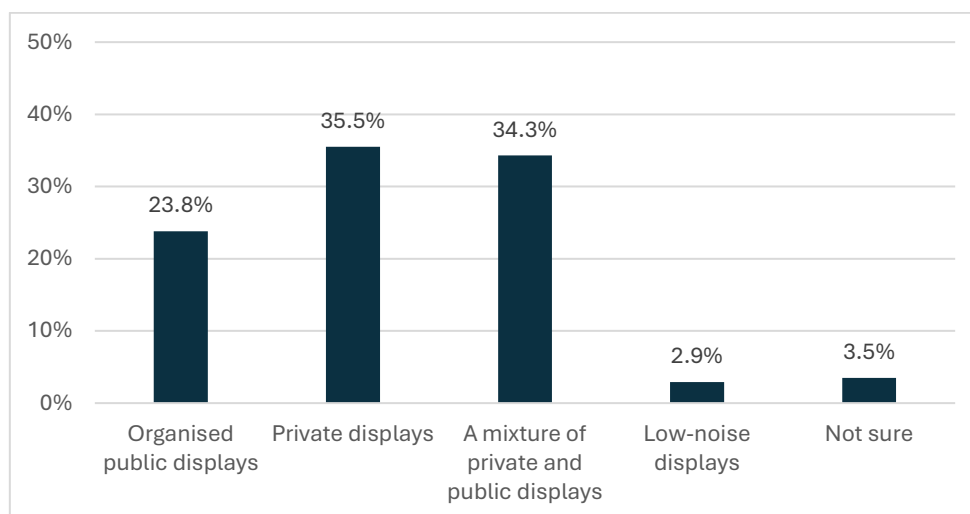


Fig.9 Types of firework display held close to horses (n=172)

## Do you take steps to reduce the risk of fireworks to your horse?

More than three-quarters of respondents take steps to help protect their horse from potential risk of fireworks. Steps can be taken if a display is known to be planned locally, or it's likely that fireworks could be let off, such as on traditional dates around Bonfire Night.

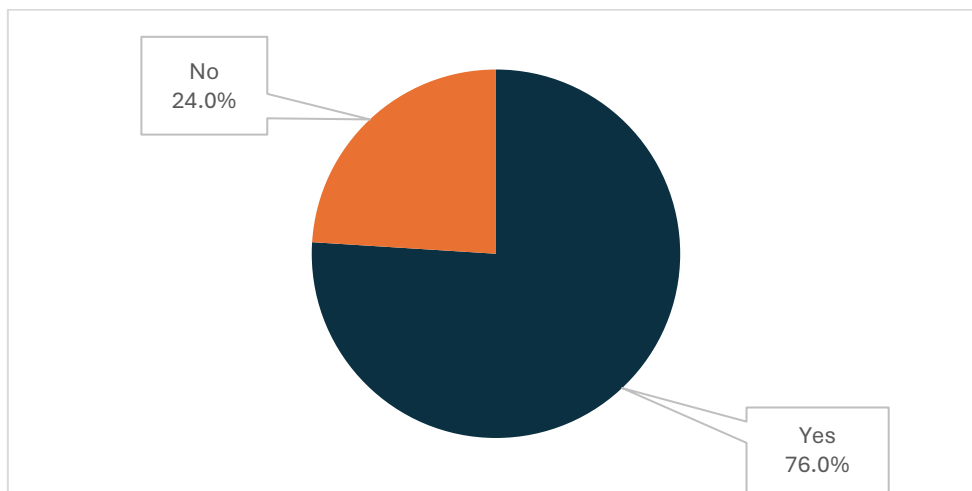


Fig.10 Proactive steps taken to reduce risk of fireworks to horses (n=179)

## What steps do you take to reduce the risk of fireworks to your horse?

More than half of respondents stabled their horse outside their usual routine to try and protect them from the effect of fireworks. Other common actions included playing music, providing additional feed and/or forage and moving the horse.

Details given under the 'other' option included leaving lights on, not riding out and completing routines early so the horse doesn't have to be handled at times when fireworks are more likely to be let off.

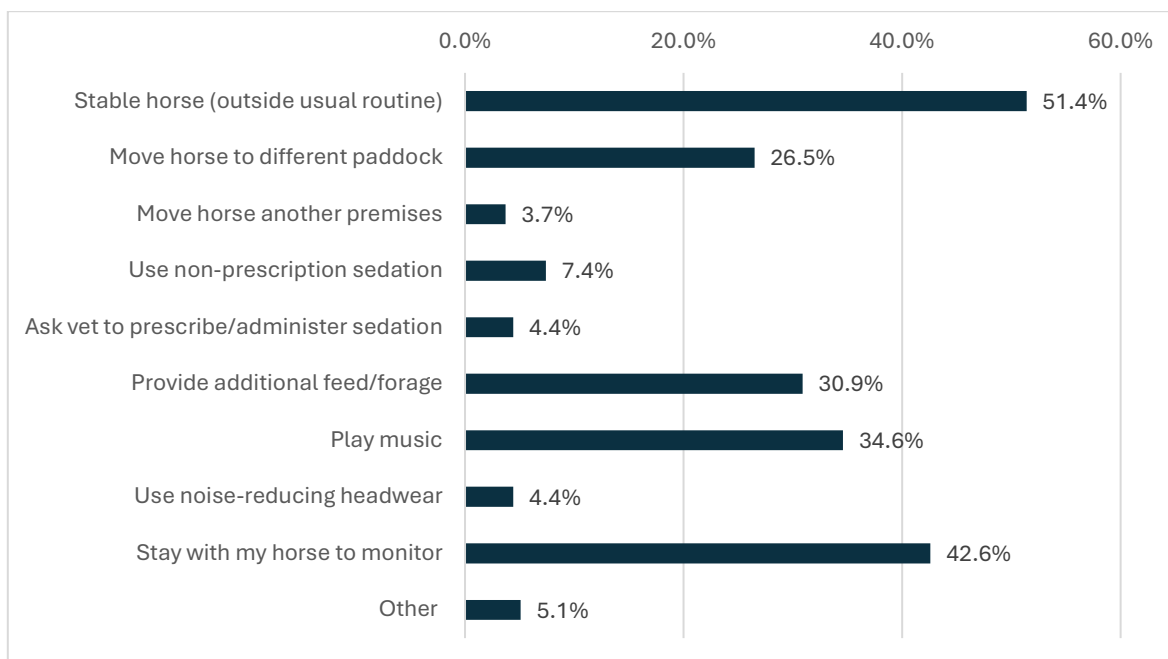


Fig.11. Steps taken to protect horses from the effect of fireworks (n=135)

## Please indicate to what extent you agree or disagree with the statements

Respondents were asked to rate their level of alignment with statements around fireworks by selecting one option on a scale from 'strongly agree' to 'strongly disagree.' The most commonly selected option is shown in bold in Table 2.

More than 97% of respondents agreed that there should be more regulation around the use of fireworks, with more than three-quarters strongly agreeing with the statement. Almost as many (92.2%) agreed that more use of low-noise fireworks or alternatives to fireworks would benefit horse welfare.

Almost four out of five owners felt that fireworks can lead to division at a local level.

There was more uncertainty around the whether owners could do more to protect horses from fireworks themselves, and the role of fireworks in cultural, social and charitable events.

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
People should be able to buy and use fireworks freely	3.9%	5.0%	11.7%	35.2%	<b>44.1%</b>
Owners should do more to protect horses themselves from the impact of fireworks	12.8%	33.0%	<b>33.5%</b>	15.6%	5.0%
There should be more regulations around the use of fireworks	<b>75.4%</b>	21.8%	1.7%	0.0%	1.1%
Fireworks are an important part of traditional, social and fundraising events	2.8%	17.3%	<b>35.2%</b>	26.3%	18.4%
More use of low-noise fireworks or alternatives to fireworks would benefit horse welfare	<b>65.4%</b>	26.8%	5.0%	1.1%	1.7%
Fireworks can lead to division among neighbours and local communities	35.8%	<b>43.6%</b>	17.3%	1.7%	1.7%

Table 2. Alignment with value statements (n=179)

"I think they should be low noise, everyone wins then. People get to enjoy them and others aren't affected. So works for all."

## Conclusion

The survey findings indicate widespread and heartfelt concerns among horse owners around the impact of fireworks on equines. More than 80% of those surveyed say they worry about the effect of fireworks on their horses and more than 97% would like to see more regulation of fireworks.

In many cases that concern is aligned with personal experience of distress caused to horses when fireworks were let off nearby. Almost half of survey respondents had known a horse in their own care to be adversely affected by fireworks. In more than half of those cases, the effects lasted beyond the duration of the display itself, with over a third of affected horses showing behavioural changes even after fireworks had stopped. In addition, a quarter sustained a short-term or long-term injury or illness or had an existing condition that was made worse. Tragically, in just under 4% of cases the horse did not survive.

Concern about fireworks is not limited to those with direct experience. Over 95% of respondents have horses who are regularly exposed to fireworks, and more than three-quarters take steps to protect their horses before and during displays. However, among those whose horses were noticeably affected by fireworks, more than 95% were not informed when a nearby display was planned.

Noise is the aspect of fireworks that horse owners most worry about, with more than 10 times as many people mentioning the noise of fireworks as a concern compared to those citing the bright lights or smell. Over 90% of respondents feel that more use of low-noise fireworks and alternatives to fireworks would benefit horse welfare. Less than 3% say low-noise firework displays are currently held near their horse(s).

Feelings about the role of fireworks in cultural and social traditions are mixed. One in five respondents agreed they are important, but most almost 45% disagreed. Just over 45% felt that owners could do more to protect horses from fireworks, though this remains challenging when awareness of planned displays is so low and practical options to protect horses are limited.

Not only horses, but owners and their communities are affected by fireworks. There are high levels of concern around fireworks with not only four out of five saying they worry, but well over half saying they worry 'a lot' and more than 40% of survey respondents stay with their horse to monitor them during firework displays. Almost 80% also say the issue of fireworks can lead to division at a local level.

While the survey sampled a small number of those who care for the 850,000 equines estimated to be living in the UK, the findings are evidence of the very real risk that fireworks pose to horses, and the strength of feeling among owners on the issue. Use of fireworks is increasing, not only during traditional periods such as Bonfire Night and Diwali, with the UK market projected to grow by almost 5% between 2024 and 2032<sup>3</sup>.

With far tighter restrictions in place in Northern Ireland and new regulations in the process of being introduced in Scotland, the call for an overhaul of relevant legislation in England and Wales is increasing rapidly and, as one of the most impacted sectors, these survey findings show that equestrians are emphatic that change is needed.

*"I feel too many people are able to freely buy fireworks and this can negatively impact horses. Mine aren't bothered but I know many are. Laws should only allow professional displays"*

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<sup>3</sup> Expert Market Research (accessed 4<sup>th</sup> December 2024) <https://www.expertmarketresearch.com/reports/united-kingdom-fireworks-market/market-trends>

## Next steps

While limited to a small number of respondents, these survey findings provide data on an area that is significantly under-researched at present. The impact of fireworks on horses is not only an important issue in itself, it is also part of a much broader landscape of attitudes and experiences which need to be fully explored in order to understand and shape our relationship with fireworks at individual, local and societal levels.

Additional analysis of the survey data is planned, and it is hoped that future findings will contribute additional insight into the topic and potentially inform further research.

Equally importantly, it is hoped that evidence of the impact of fireworks on horses will be of interest not only to the equestrian sector and policy-makers, but those who use and enjoy fireworks to raise the awareness of the risk of inadvertent, but nonetheless potentially distressing and devastating outcomes that can result from displays.

“It's a shame because they are really nice to watch but the negative effect they have on all animals isn't worth it”

## Further information

The links below provide some useful context to the issues raised in this report. Please also feel free to contact [campaigns@redwings.org.uk](mailto:campaigns@redwings.org.uk) with any questions or comments.

Redwings fireworks webpage: [www.redwings.org.uk/what-we-do/our-campaigning/fireworks-and-horses](http://www.redwings.org.uk/what-we-do/our-campaigning/fireworks-and-horses)

Fireworks regulations in England and Wales: <https://www.gov.uk/fireworks-the-law>

‘Fireworks and Animals’ information leaflet:

<https://assets.publishing.service.gov.uk/media/5a7c693de5274a5590059ae6/fireworks.pdf>

The British Fireworks Association: <https://www.britishfireworksassociation.co.uk/>

“If people could see how terrified some animals are of fireworks it may just change their perception and encourage them to be more mindful”