

Does ShuRoo Work?

A manufacturer's factual refutation of a flawed academic study - Ultrasonic auditory stimuli as a method to deter kangaroos in agricultural and road environments.

A background to the requirement for this document.

"The report is flawed...consequently caution should be taken in interpreting the results and extrapolating the findings reported here..." – Extract from Page 63 of *Effectiveness of the ShuRoo* by Helena Bender.

The above extract from the study in question - *Ultrasonic auditory stimuli as a method to deter kangaroos in agricultural and road environments* - goes to the heart of the matter. Once you admit this flaw, then what possible weight, scientific or otherwise, can be put behind the findings?

Let's expand - and talk in plain terminology about why ShuRoo does work, and why this specific academic report that challenged this fact was flawed.

In 2001, an academic report appeared called *Ultrasonic auditory stimuli as a method to deter kangaroos in agricultural and road environments*, which challenged the claims we make to the effectiveness of our product - ShuRoo. However, the foundations of this report were fundamentally flawed - and so followed its flawed findings. The errors stem from the testing methods employed, where the author sought to take a unique product out of its designed-for context and into an artificially created environment in order to test its effectiveness.

This, of course, led to many inaccuracies and false findings. The most important of these are detailed below. It's important to note that our arguments herein are based on statements extracted directly from the aforementioned report and from notes on discussions held with its author after publication.

We leave readers to judge for themselves.

Testing on the field, not in the practice nets.

To use a very Australian test cricket analogy: a good knock in the practice nets does not necessarily equate to a century out on the field. And vice-versa. The point is this: any results measured in a controlled environment provide no certitude of the same results in an uncontrolled environment.

This is especially the case where the testing of a ShuRoo is concerned.

ShuRoo is a device that is designed to assist in the avoidance of kangaroo strikes on the open road - a very specific, wholly wild environment. The author of the report failed to take this into account properly. On the whole, the majority of the findings in Ms. Bender's report are based on data concluded from tests on neutered, semi-tame kangaroos in a wildlife park (Werribee Open Range Park). Now, anyone who has visited such a park knows that you

can approach these types of kangaroos, even so far as to let children pet them. They are quite used to human contact and motor vehicles, and, as stated in the report, “zoo bus tours, maintenance and feeding vehicles regularly travelled” the ring road that goes through the particular park - meaning these kangaroos were even less likely to react adversely to approach from such vehicles, even when fitted with a ShuRoo. Alarming, this is the “created” environment in which Ms. Bender chose to perform her live tests, even going as far as using the feed vehicle for the kangaroos as the test vehicle.

It is easy, then, to conclude this was clearly not the ideal test scenario in which to judge the effectiveness of a ShuRoo—far from it.

Further, though we believe the ShuRoo used in testing was incorrectly set-up, not functioning to its full capacity, or faulty, the response Ms. Bender notes, that the kangaroos were, on the whole, “not overly alarmed” by the ShuRoo being pointed at them, is not an entirely unexpected result, especially given the indolent nature of the neutered, semi-tame test group. As we shall expand upon later, the ShuRoo signal is not designed to panic kangaroos, as quite obviously this could lead to them jumping into the vehicle’s path by mistake anyway. ShuRoo’s signal is designed like an ambulance siren—to create awareness, not panic. So the test kangaroos, while probably exhibiting a more sedate reaction than a wholly wild kangaroo might, actually did exhibit the “not overly alarmed” response that the ShuRoo is designed to elicit.

How, then, you ask, is a ShuRoo to be judged for effectiveness? Answer: by real-life, long-term testing in the wild environment it was designed for. ShuRoo has many fleet vehicle operators who happily testify to its effectiveness based on concrete, common sense, before-and-after empirical data. One of our more recent testimonials illustrates this point:

“We have been installing ShuRoo’s on our vehicles since 2002, over that period, based on previous data, we have maintained a 70% reduction in accident damage cost relating to animal strikes. We currently have 127 vehicles fitted with ShuRoo’s. The financial savings far outweigh the cost of installing ShuRoo’s on Hydro Tasmania vehicles.” – Alan Johnson, Fleet Manager, Hydro Tasmania – June 2013.

The above field test result is one of many we have from satisfied fleet operators all over Australia. The reader is encouraged to view more of them via our website: www.shuroo.com.au/field-tests/

Here, though, it should be pointed out that ShuRoo does not, and never has, claimed that our product is a miraculous force field that will guarantee against collision. We are most upfront about this in all claims about the effectiveness of the product. A ShuRoo is designed to minimise the chance of collision—to give animal and driver the best possible chance of avoidance. In her report Ms. Bender states: *“one respondent (Prowse-Brown) stated that they had used ShuRoo for six years without hitting a kangaroo... while another respondent (Kangaroo Island Freight) said that they had used the ShuRoo for only one day and hit a kangaroo”*. This exemplifies the whole point in testing a ShuRoo: strikes may still occur, but using fleet operators as the source of data over a lengthy time period—as that of Hydro Tasmania—shows the increased safety factor and the reduction in instances of collision to be obvious and irrefutable.

The conclusion is a simple one: would fleet operators continue to purchase and fit ShuRooos to their vehicles if they had not noticed a significant reduction in kangaroo strikes? Answer: of course not.

What's more, you're holding the bat upside down.

Borrowing a little more from a cricket analogy, when a batsman is struggling to produce the desired results, his technique is the first thing to come into question. As a professional, the batsman will then seek out his batting coach to assess his technique in an attempt to root out any flaws.

Surely the author of the report, especially in the case of results occurring contrary to what had been claimed of the device, would logically ask: Is the device wired-up correctly? Has the unit been tested against other units? Is the unit faulty for some reason?

Sadly, none of these questions were asked by Ms. Bender. ShuRoo, as a company, was never approached in a "batting coach" capacity, to ensure the unit was functioning properly, set-up to specification, and to provide the use of several units to gain a greater cross-section of data. This is a fundamental mistake from which there can be no recovery of even a semblance of credibility to attribute to the entire report. In a later amendment to the initial report, Ms. Bender herself states: *"A flaw of this study was to test only one ShuRoo. It is possible that this device was faulty; consequently, caution should be taken in interpreting the results and extrapolating the findings reported here. Future studies should test multiple units including subsequent ShuRoo models."* – Extract from Page 63 – *Effectiveness of the ShuRoo*.

Once you admit this, and a stunning admission it is, then what possible weight, scientific or otherwise, can be put behind the findings? Answer: none.

The same can be said for the road test group that Ms. Bender surveyed, where 15 of an initial 31 companies who agreed to participate ended up submitting data in one form or another—"by email or over the phone". In an ideal situation it would be mandatory for the manufacturer to supply and fit the devices to the test vehicles so that, at the very least, the basis of the findings would have credibility on an operational level. This was not done. Instead Ms. Bender's method was to collect a survey group that was unqualified in this respect—how old were the ShuRoo units involved? When were they last serviced? Nobody knows. In fact, there was no way to verify any of the vehicle data collected was from vehicles fitted with a ShuRoo—every piece of data was simply reliant upon the word of an extraneous, unqualified, unmonitored source. Further, many companies initially involved in the test ended up dropping out, citing the task as *"too onerous"* for their drivers to complete properly, and some fleet managers reported that *"their drivers refused to record their odometer readings, presumably in fear of having conflicting numbers when inspected by transport authorities."* Other pointers to unreliable data show up when two of the surveyed group reported ridiculous numbers of "39" and "25" kangaroo strikes in one night.

Again, the question of fundamental credibility is raised.

The Shuroo “Song”

ShuRoo is designed to act in the same manner a police or ambulance siren does - it is not designed to blast you with such an overwhelming sound wave that would see you lose all capacity for rational thought. No. It is designed, both in its strength of signal and its “song” or sound pattern, to elicit a sharp response in awareness from the subject. We believe the equipment used was unable to effectively measure this unique sound pattern, measuring only a selected frequency and simply appearing as a blip, not registering the continually rotating frequencies that cause the animal to respond to ShuRoo. We must stress that the equipment used was not at fault, simply that it was not the “right” equipment to be able to measure the sound pattern produced by the ShuRoo.

If you hear an ambulance siren while you’re driving somewhere, your reaction isn’t to speed up and career aimlessly off the road, instead it is to slow down, become aware of your surroundings and pull off the road, if necessary, to let the ambulance pass. So too is this the case with ShuRoo - it allows both animal and driver the best chance of avoiding a collision via increased awareness.

An old 486 versus an Intel iCore7

No more cricket analogies. We’ve moved on to computers now. Nevertheless, the point is a very valid one: Technology advances. While we know an old 486 computer ran its version of Excel and got the job done, we also know that a new iCore7 will now run it a lot better, more efficiently, with enhanced features - better results. The same is true of ShuRoo. While we’re certain the ShuRoo of ten years ago performed the task it was designed for - if set-up correctly and functioning properly - we have greatly improved the unit in the intervening years.

And just as emergency services sirens have evolved along with the technology of the day, so too has ShuRoo.

Similarly, at ShuRoo, we realise that the fundamentals don’t drastically change -the roads, the drivers, the speed limits, the kangaroos. But we do realise that advancing technology allows us to improve our product as we progress through the years. And, since 1987, that is what we have done and will continue to do.

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