

Repelling wildlife by using sound emitting devices - results of an internet search by Owen Williams

As of Oct. 29, 2020

See submission to City of London from Dan Mailer re banning such devices under the Noise Bylaw. Owen Williams is a wildlife biologist, retired from the Ontario Ministry of Natural Resources after 35 years. He is Past President and long term Board member of the Ontario Invasive Plant Council and a long term (and current) Director of Carolinian Canada. ***The following information provides links to resources that are readily available on the internet.***

SEARCH - <Rodent Repellent Noise>

Orkin, one of the world's largest pest management companies, provides an overview of the lack of effectiveness of ultrasonics to repel rodents and other pests. The bottom line is that there is no data to support such claims. They make brief reference to such devices being used to deter birds, yet the birds actually roosted on the devices.

<https://www.orkin.com/rodents/mouse-control/electronic-mice-repellent>

Similar conclusions on other websites

<https://www.wil-kil.com/blog/does-ultrasonic-rodent-repellent-work/>

McGill University: <https://www.mcgill.ca/oss/article/technology-you-asked/are-ultrasonic-pest-repellers-effective> "...these devices have never been proven to actually work." There is a graphic there to show the hearing range of various animals...it might be useful.

The devices were also not effective on kangaroos. The paper provides other interesting references.

<https://www.jstor.org/stable/3784449?seq=1>

It seems that there is less research being conducted on this topic than was done 20 years ago. One of the more recent studies was reported in 2018...with the same conclusion: the devices don't work (in this case on rats).

<https://niv.ns.ac.rs/e-avm/index.php/e-avm/article/view/14>

I didn't take time to follow all the leads at this link:

<https://www.quora.com/Are-electronic-pest-repellers-harmful-to-human-hearing>

Consumer Reports has provided many articles about the ineffectiveness of these devices and the false claims made by manufacturers. See for examples:

<https://www.consumerreports.org/insect-repellent/five-insect-repellent-products-to-avoid/> (scroll down to the section on sonic devices)

Another reliable information sources, Wikipedia, also concludes that the devices are of “questionable effectiveness”. They provide references for studies that were done 20+ years ago showing that the devices were ineffective. There is also reference to an American court order against a company requiring that it cease marketing their device until they could prove that it worked. The order remains in place. See

https://en.wikipedia.org/wiki/Electronic_pest_control

Of course the companies that sell these devices say that they work, and if they don't, it is because you weren't using it correctly.

The following pest control company in Australia sites some very minor research that was done about 20 years ago. It is not very convincing data relative to repelling animals/insects, however, it does support the contention that the sound does disrupt the lives of the animals, reducing feeding and normal behaviour. That would apply to many species of wildlife, not just the ones that a homeowner doesn't like. See

<https://www.pestrol.com.au/best-rodent-repellers/>

Some other “pro” sites:

<https://stoppestinfo.com/en-ca/79-electronic-indoors-repellers-review.html>

<https://www.pests.org/best-mouse-repellents/>

SEARCH: < ultrasonic repellent impacts on wildlife >

The International Association of Certified Home Inspectors provides an excellent summary of the lack of effectiveness of the devices and lists the reported impacts on human health and infrastructure.

<https://www.nachi.org/ultrasonic-pest-repellers.htm>

The following research paper provides an overview of the research and challenges prior to 1997.

SHUMAKE, S. A. 1997. Electronic rodent repellent devices: a review of efficacy test protocols and regulatory actions. Pages 253-270 in Mason, J. R., editor. Repellents in Wildlife Management (August 8-10, 1995, Denver, CO). USDA, National Wildlife Research Center, Fort Collins, CO.

See pdf: Shumake1997-ResearchProtocols-ultrasonics

This paper might be of interest:

Tiwari, D. K., & Ansari, M. A. (2016). Electronic Pest Repellent: A Review. International Conference on Innovations in information Embedded and Communication Systems (ICIIECS'16)'Department of Electronics and Communications

This research report indicates that not only are ultrasonics not effective as a repellent, in this research design, the device actually attracted the targeted pest.

<https://www.sciencedirect.com/science/article/abs/pii/S0168159108001494>

Impacts On People

There are a number of journal publications related to the ***damaging effects on people***:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4786042/> NOTE the links to related articles in the right hand column – scroll down to see all of them. See also reviews.

<https://pointe-pest.com/electronic-pest-repellers-harmful-human-hearing/>

There is an interesting article from 2016 that suggests that ultrasound devices may cause tinnitus in people...however, as often happens the researcher felt that further research was required to be more confident in the conclusion. It might be worth searching further for work done by this researcher, perhaps contacting him directly.

See: <https://www.bshaa.com/News/invisible-ultrasound-can-be-a-cause-of-tinnitus>

See also: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4786042/>

https://royalsocietypublishing.org/doi/full/10.1098/rspa.2015.0624?utm_campaign=buffer&utm_medium=social&utm_content=buffer05db8&utm_source=twitter.com

Look into Canadian Guidelines. Here is one link:

<https://www.canada.ca/en/health-canada/services/environmental-workplace-health/reports-publications/radiation/guidelines-safe-use-ultrasound-part-industrial-commercial-applications-safety-code-24.html>