

Irish Garden Hedgehog Survey - Footprint Tunnel Method



Garden Hedgehog. Photo courtesy of Pat Morris

Introduction

The Irish Hedgehog Survey is a project led by researchers in NUI Galway. The aim of the survey is to gather information on the status of the Irish hedgehog population. The garden hedgehog survey will help us understand how hedgehogs use the gardens in our cities, towns and countryside.

This is a citizen science project which means that volunteers play the very important role of collecting the data for the survey. Thank you for taking part in the project. We hope you enjoy it and we look forward to sharing the results with you when the survey is complete.



We are very thankful for the support of our project partners who have facilitated this research. The following organisations have provided funding, administrative and technical support to the Irish Hedgehog Survey which is gratefully acknowledged.



An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreacht
Department of Housing,
Local Government and Heritage



Comhairle Contae Mhaigh Eo
Mayo County Council



Kilkenny County Council
Comhairle Chontae Chill Chainnigh



Comhairle Cathrach
Bhaile Átha Cliath
Dublin City Council



Comhairle Chontae na Gaillimhe
Galway County Council



Survey method

You can take part in the survey whether you believe you have hedgehogs in your garden or not. The survey must take place between the start of June and the end of September. It will run over the summer of 2021 and again in 2022.

The survey method is quite straight forward:

1. Make a footprint tunnel.
2. Put footprint tunnel in a suitable spot in your garden for 7 nights in a row.
3. Check every morning for footprints.
4. Submit your results via a simple online form.

You should complete one 7-night survey for each garden. If you wish to survey the same garden more than once you should leave one month between surveys.

1. Make a footprint Tunnel

Don't be put off by a little bit of 'make and do' it is very easy to make a footprint tunnel at home or school. Full instructions are found on pages 4 – 7.

2. Choose a spot

You can survey as many gardens as you wish provided you have the home-owner's permission. You may also survey in public green spaces within housing estates, school gardens or other gardens. If your garden is large (more than a quarter acre) you should use two tunnels.

Hedgehogs are active at night, so you should prepare and set your tunnel before dusk. Assemble the tunnel and prepare the base board of the tunnel with fresh paper, paint and bait according to the instructions (pages 4 -7).

You should place your tunnel in the same spot every night. Hedgehogs like to move along linear features so if possible, choose a location alongside a hedge, wall, fence, shed or a border between long and short grass.

3. Check every morning

Each morning, slide out the base board and check for footprints. Hedgehog footprints are quite distinctive. Both the front and back feet have five toes, though often only four toes show up on the tracks.

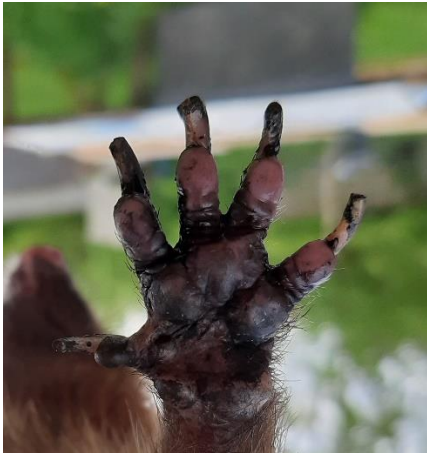
The front feet are wider (~30 mm long and 25 mm wide), and they look like little hands. The back feet are slimmer and longer and leave narrower prints (30-35 mm long and 25 mm wide).



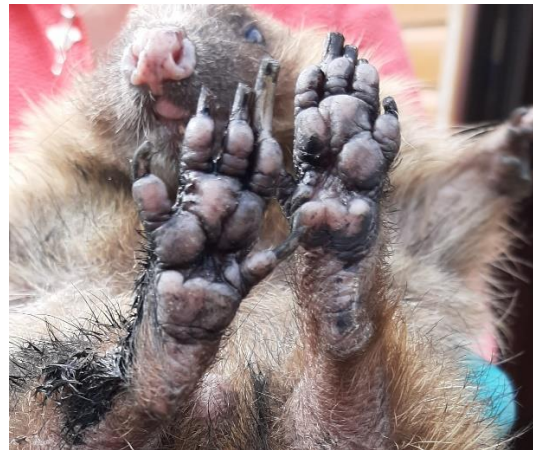
Hedgehog front footprint



Hedgehog hind footprint



Hedgehog fore foot



Hedgehog hind foot

Other animals may use the tunnel such as mice, rats or cats. You can see some images of their prints on page 8.

If prints are present, remove the sheet(s), write the date on it and keep it safe until the end of the survey. If no prints are present and the paper is in good condition, you can leave it in place. If the paper is damp or damaged you should discard it along with any uneaten food which may spoil if left out in heat all day. In the evening, reset the tunnel with fresh paper and bait and top up the ink pads as necessary.

This procedure should be followed for 7 nights. On the morning after the 7th night you should remove the tunnel and wipe it down thoroughly with an anti-bacterial spray and paper towels so it is clean and ready for the next survey. When you are finished your survey, you can use it again, pass the tunnel to a friend or neighbour or pop it in the recycling bin.

4. Submit your results

Please submit your results as soon as you can after you complete your survey. It should only take 5 minutes on the online form.

Negative results are just as important as positives, so it is very important that you submit your results, even if you did not find any hedgehogs in your garden – this is vital information for the project!

You submit your results via the online survey form on the hedgehog survey website. Here is the link <https://forms.gle/UwENCRnUstM6BjaC7>. Please only complete one 7-night survey per garden. Use one form for each survey completed.

The form is quite straight forward and uses mostly tick-boxes so it should just take a few minutes to complete. The first part of the form gathers information about your garden and the second part records the findings of your survey. You can upload photos, videos or PDF files on the form. It would be helpful if you can scan or photograph your footprint sheets and upload them for verification. We would also welcome photos or short video clips of your night-time visitors.

Note: this is a google form. Because you can upload files to this form, for security reasons you will require a google account to access it. Most people will have one if you use gmail or an android

phone. If you do not, you can create a google account quite easily using your own email address – [see here for details](#). If you have any problems at all. Please email elaine.oriordan@nuigalway.ie and we will get you sorted!

[Click here to enter online survey form](#)

How to make your own footprint tunnel

This design is for a triangular tunnel with sides of about 23cm wide and 80 to 100cm long made from corrugated plastic* or cardboard. There is a removable base board holds the paper, ink and bait.

Old election posters or signs are perfect for this. But you can use cardboard if you have a big box or two handy. Sheets of black Correx or corriboard can be bought at builders providers or online.

Materials

- 1 sheet corrugated plastic or cardboard - minimum dimensions 100cm X 80cm of (you can tape 2 sheets together if necessary)
- Box-cutter or similar sharp knife
- Duct tape or Gaffer tape
- 2 Black plastic bags (if you are using cardboard for the tunnel).
- Masking tape
- 2 sheets of A4 plain white paper
- 8 paper clips or thumb tacks
- Jam jar lid / small dish
- Blue tack
- Black or dark colour non toxic poster paint.
- Vegetable oil
- Bait - cat or dog food (wet or dry).
- 2 tent pegs

Method

1. Lay your corriboard or cardboard sheet flat and use a Stanley knife to cut off one strip 22cm wide to form the base board.
2. On the remaining sheet, measure out 3 x 24cm wide panels and score the length of the board with a coin or a key to allow them to fold as indicated in the diagram below.



3. Fold the sheet into a triangular tunnel and stick down the overlap with duct tape or similar.



4. If your tunnel is made from cardboard, wrap the black plastic bags around the sides and base of the tunnel to make it waterproof and secure with tape.
5. Use the drawing pins or paper clips to attach a sheet of paper to either end of the base board.
6. Secure the jam jar lid in the centre of the base board with the Blu-tac.
7. Attach 2 or 3 strips of masking tape across the base board either side of the jar lid to make the ink pads.
8. To make the ink, mix a small amount of vegetable oil into the paint to prevent it from drying out, but don't make it too liquid.
9. Paint a generous coating of paint onto the masking tape.
10. Place bait in jam jar lid.



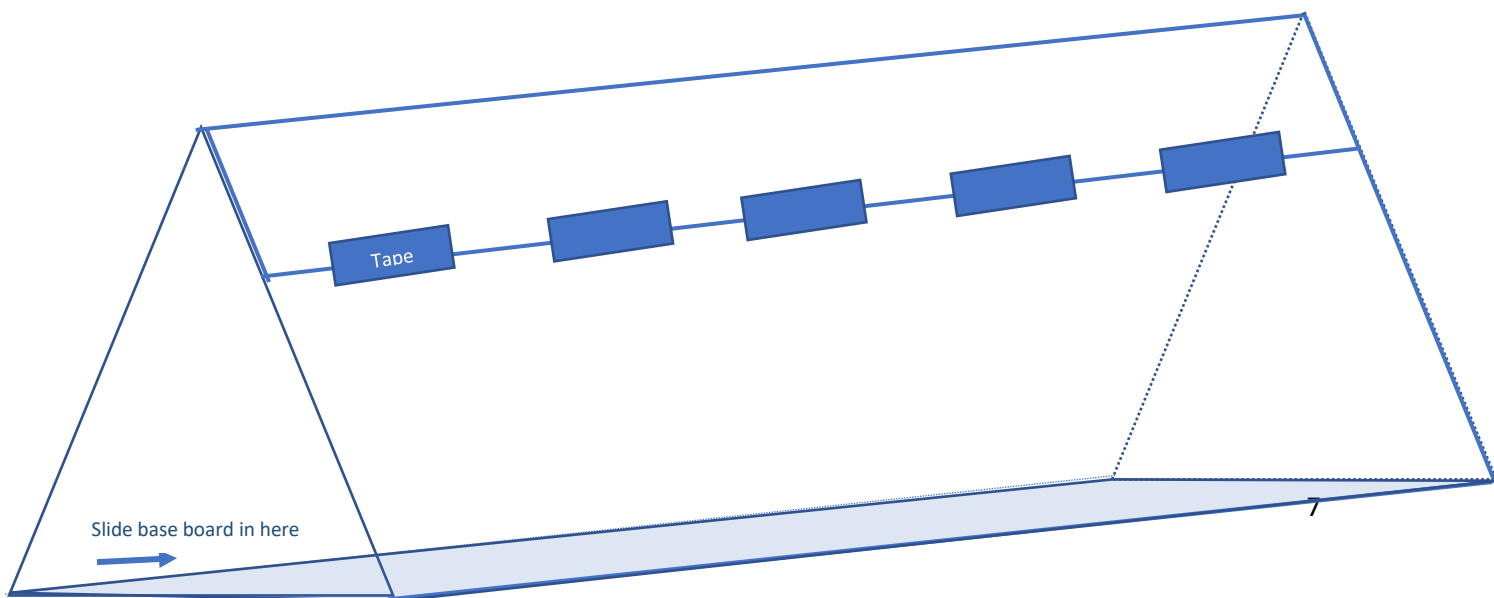
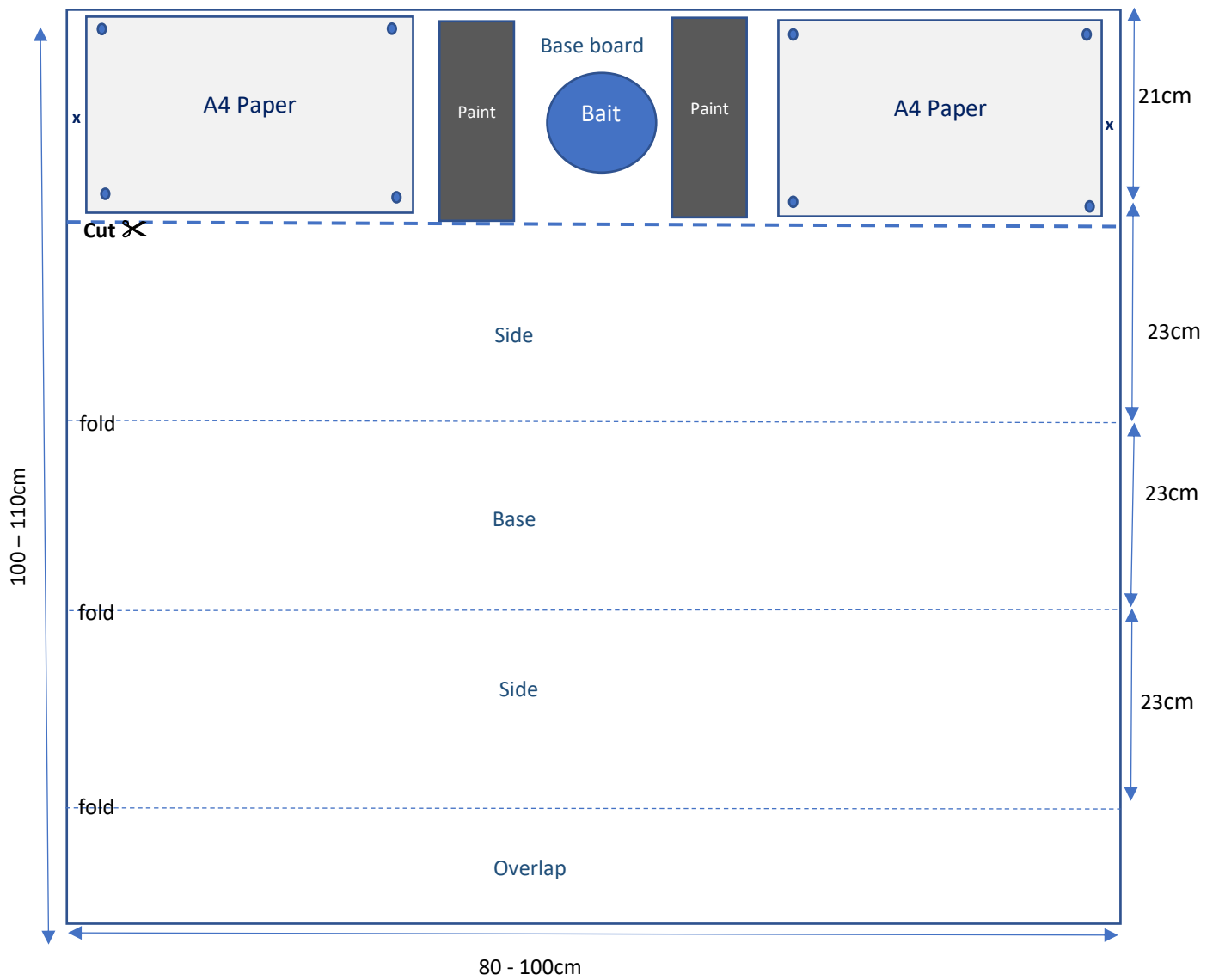
11. Slide base board into tunnel.
12. Place tunnel in survey location making sure that the entrance is flush with the ground.
13. If necessary, secure tunnel in place with tent pegs at entrance (make hole and push pegs through spot marked x on diagram).



Design based on that developed by researchers at Nottingham Trent University and the Mammal Society in the UK:

Yarnell, R. W., Pacheco, M., Williams, B., Neumann, J. L., Rymer, D. J. & Baker, P. J. (2014) Using occupancy analysis to validate the use of footprint tunnels as a method for monitoring the hedgehog *Erinaceus europaeus*. *Mammal Review*, 44(3-4), 234-238.

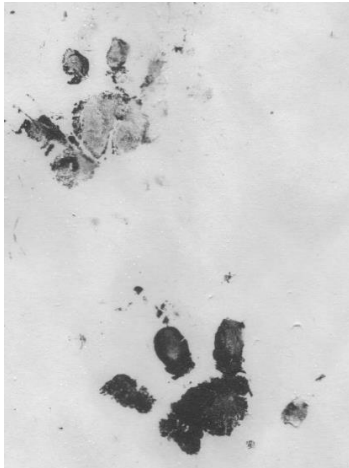
Dimensions



Footprint Guide

The most common species you may find in your tunnel are shown here but you may find something else. Please scan or photograph your footprints and upload with the online form or email them to elaine.oriordan@nuigalway.ie. approximate

Footprints measurements are approximate. Images courtesy of London Wildlife Trust.



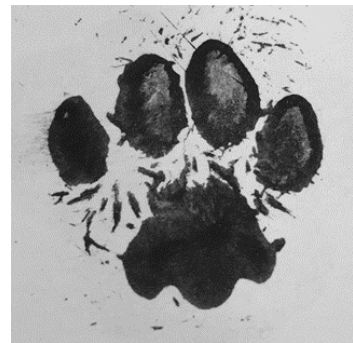
Hedgehog

W 25mm L 35mm



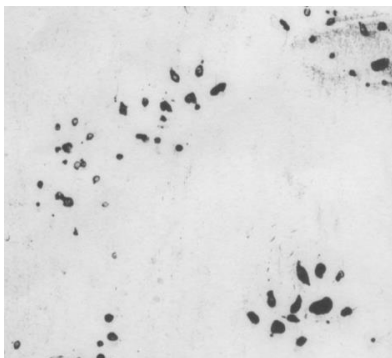
Fox

W 45mm L 50mm



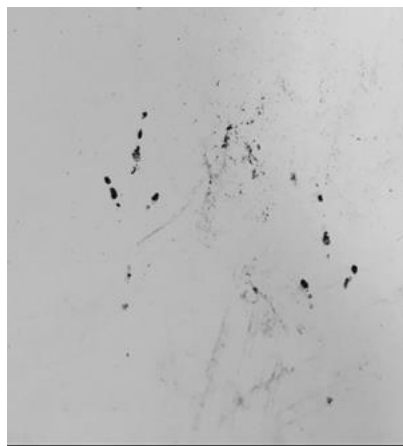
Cat

W 30mm L 30 – 35mm



Rodent (rat/mouse)

Tiny L 10-30m



Bird

Variable in size



Squirrel

W 25mm L 35mm

Links and useful information

If you have any questions, please contact the lead researcher on the project –

Elaine O’Riordan by email at elaine.oriordan@nuigalway.ie

You can find out about other surveys and keep up to date with the Irish Hedgehog Survey via the website:

<https://www.irishhedgehogsurvey.com/>

If you see a hedgehog anywhere in Ireland, alive or dead, you can record your sightings via the biodiversity Ireland page here:

<https://www.biodiversityireland.ie/projects/additional-survey-schemes/irish-hedgehog-survey/>

Follow the Irish hedgehog survey on social media

<https://www.facebook.com/IrishHedgehogSurvey/>

https://twitter.com/Irish_Hedgehogs

If you find a sick or injured hedgehog, you should contact your local vet or ISPCA branch to see if they can help. If not, you can get advice and help from:

Dublin Hedgehog Rescue 086 8810492

The Hogsprinkle Wildlife Carers 086 8624511

Kildare Animal Foundation, Wildlife Unit 087 6201270

Advice on what to do if you find injured wildlife here www.irishwildlifematters.ie

Some useful sites with information about hedgehogs

British hedgehog preservation society <https://www.britishhedgehogs.org.uk/>

Hedgehog street <https://www.hedgehogstreet.org/>

Peoples trust for endangered species <https://ptes.org/>