



Waterford Institute of Technology



**Mammals in
a Sustainable
Environment**



CSPE Action Project with St. Paul's Community School, Lisduggan, Waterford

“Stewardship and Awareness of Mammals in an Urban Environment”

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INTRODUCTION

On November 14th, Denise O'Meara from Waterford Institute of Technology (WIT) met with CSPE teacher Mr Mullane from St Paul's Community School, to discuss the feasibility of integrating the MISE Project with a CSPE Action Project for the Junior Certificate course. The aim of the MISE project is to create awareness of mammals in the environment and to teach people how to find signs of mammals in their local area. The long-term objective is to create a level of awareness of the local wildlife population by members of the community that will help to sustain the wildlife populations for the future. The MISE Project is part funded by European Regional Development Fund under the Ireland Wales Programme 2007-2013 (INTERREG IVA) www.miseproject.ie. The lead partner in the MISE project is WIT with other Irish partners including Waterford County Council and the Biodiversity Data Centre.

A number of headings can be found in the “Action Project” curriculum document http://cspe.slss.ie/downloads/DATA/ENGLISH/12_Pro%20Forma/RAP2004.pdf and it was decided to target the project under the “Stewardship” tag. The project was titled “Stewardship and Awareness of Mammals in an Urban Environment”, and the class invited members from the MISE Project to speak to them about urban wildlife and to help them devise a survey strategy for their school grounds.

AWARENESS

There are 25 students in Mr Mullane's third year CSPE class. Two members of the class came to the staff room and invited the MISE team (Denise O'Meara, Andrew Harrington and Edel Sheerin (MISE volunteer) to the school library and introduced us to their class. The project got underway by means of a questionnaire which was used to assess the pre survey awareness of mammalian wildlife in Waterford City. The questions that were asked included

- 1. Can you name any mammals that can be found in Waterford City?**
- 2. Have you seen any wildlife in Waterford City?**
- 3. Are you interested in finding out more about the mammals that live in your local area?**

Secondly, we presented a short PowerPoint Presentation that introduced the students to urban wildlife including foxes, badgers, hedgehogs, bats, stoats, red and grey squirrels, otters and small mammals. Small mammals found in Waterford City include the wood mouse, pygmy shrew, bank vole and brown rat.

INVESTIGATION

The investigation section of the project involved surveying the school grounds for signs or evidence of the following mammals: fox, hedgehog, stoat, wood mouse, pygmy shrew, bank vole and brown rat. Five teams consisting of five students each took on an action project.

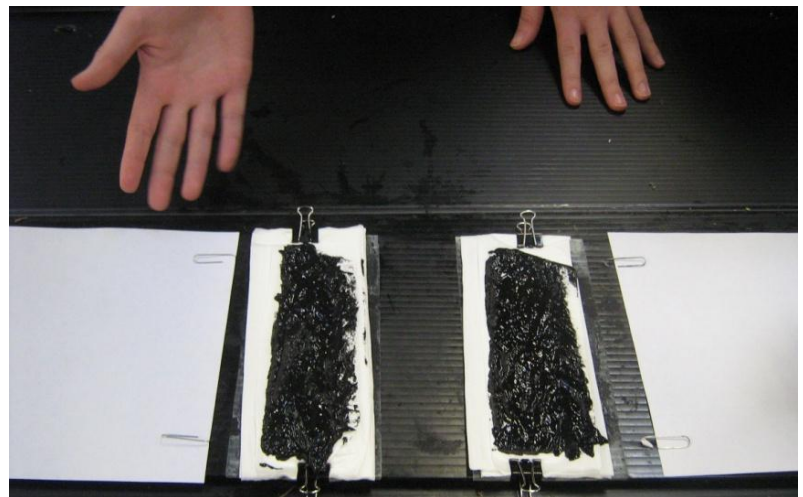


ACTION

1. Hedgehog tunnels

Hedgehog tunnels were designed to capture footprints of hedgehogs and small mammals. The overall idea is that food is placed inside the tunnel

with some black ink in the middle. Two sheets of white paper are placed at either end and when the hedgehog or small mammal enters and leaves the tunnel, they leave behind footprint evidence which can be used for identification. Hedgehog tunnels were made with recycled election posters, following the design specifications from the MISE website <http://www.miseproject.ie/wp-content/uploads/2012/02/Hedgehog-survey.pdf>.



Preparing the hedgehog tunnel with black non-toxic poster paint

2. Small mammal bait pots



Students preparing their small mammal bait pot by baiting it with peanut butter

Bait pots were designed to capture faecal signs (poo) of small mammals using an old jam pot that was baited with peanut butter. Students applied peanut butter into the pots and followed the instructions from the MISE website <http://www.miseproject.ie/wp-content/uploads/2012/02/Small-Mammal-Bait-Pot-Survey-method1.pdf>. The faecal remains can be collected and used for DNA identification.

3. Small mammal hair-tubes

30 cm length of 50 mm PVC piping were used to collect hair samples from small mammals. Sticky patches were placed at either end of the tube and the tube was baited with peanut butter. As the small mammal enters to eat the peanut butter, its hair may get caught on the sticky patch that can be used for DNA identification.



Students preparing their small mammal hair-tubes

4. Stoat footprint tunnels

Stoat footprint tunnels were used to also collect footprints from small mammals and stoats. The tubes were made following the specifications by Jeroen Mos <http://www.wildlifeweb.nl/Footprinttunnels%20to%20study%20the%20presence%20of%20weasel%20and%20stoat.pdf>.



Students preparing stoat footprint tunnels

5. Fox scat (poo) survey

The final group of students took part in a fox survey on the school pitch. Foxes can be identified by finding evidence of their scats. Scats can then be collected and used for DNA analysis. The survey involved walking the school grounds looking for fox tracks, footprints and scats.



Students surveying for fox scat (poo) on the school grounds

RESULTS

The initial awareness raising survey in the project asked the students about what mammals they had come across in the city. Domestic animals included cats, dogs and horses. The results (Fig. 1) show that the most recognisable wild mammals in the urban area include rabbits, squirrels and foxes.



Students compiling their evidence of mammals after the survey

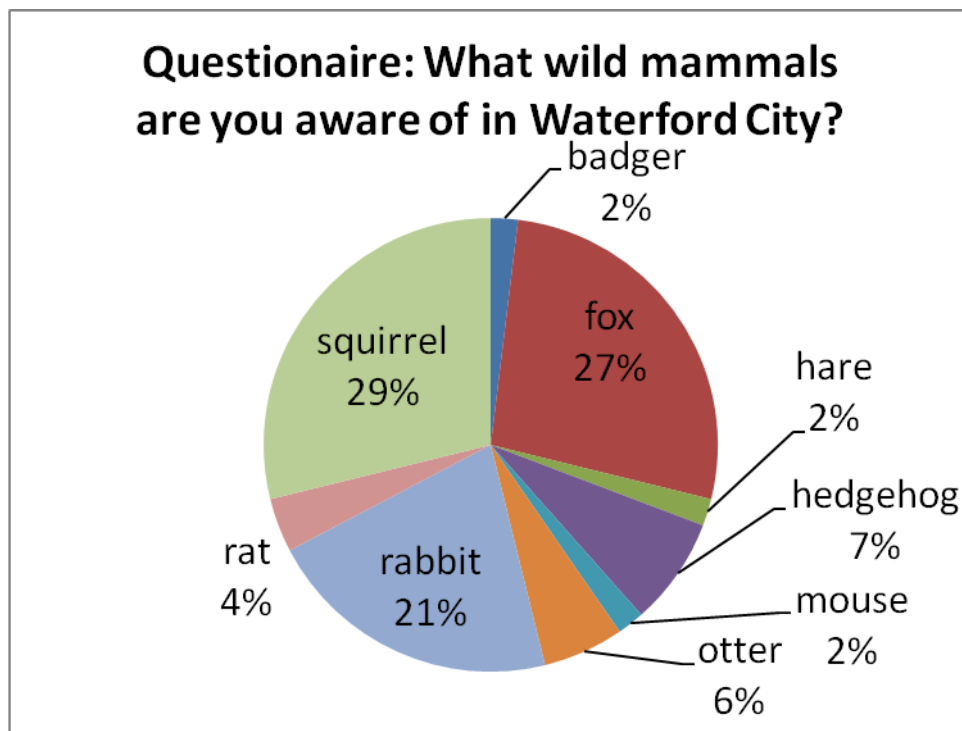


Figure 1: Results of the survey which examined knowledge of wildlife in Waterford City amongst third year CSPE students

The results of the Action project (Table 1) found evidence of small mammals in the small mammal bait pots and in the small mammal hair tubes. There was no evidence of footprints in the stoat tunnels or the hedgehog tunnels. There was also no evidence of fox on the school grounds.

Table 1: Results of the Action project to detect signs of mammals on the school grounds

Survey method	Hedgehog tunnel	small mammal bait pot	small mammal hair-tube	stoat foot print tunnel	Fox survey
Evidence?	No	Yes	Yes	No	No

Finally, the students discussed ways that the school grounds could be improved for wildlife including the development of a wildlife friendly area. The students also saw that many mammals are elusive and despite low evidence of mammal activity on the school grounds, evidence of any wildlife came as a surprise to many students. The project also helped the class to develop a number of personal skills including communication, team work, organisation, environmental survey techniques and awareness of their urban wildlife.

DISCUSSION

This project aimed to facilitate a third year CSPE class to undertake a CSPE Action Project designed to create stewardship and awareness of mammals in an urban environment. 1. Overall knowledge of mammals in an urban environment was assessed 2. The project investigated the presence of mammals on the school grounds 3. A number of actions were taken to fulfil the investigation 4. The students investigated improvements and made recommendations to make the school grounds more wildlife friendly.

The students will use the results from this survey to create an awareness campaign within the school and to create a sense of stewardship of their local environment. This will help to sustain the small mammal population currently present on the school grounds and also encourage other wildlife such as hedgehogs. The student's knowledge and awareness of wildlife has now increased as a result of this project and they may seek other environmental improvements on the school grounds such as the creation of a wildlife garden, building of "bug hotels" to encourage insects and a bird feeder to encourage birds. Overall, the project was a great success with a great level of interest and enthusiasm from the students. This project was specifically tailored to meet the requirements of the CSPE Action Project curriculum, but it can just as easily be designed for a Transition Year Programme or a science project. We also intend to engage in future projects with the Special Needs Unit situated on the grounds of St. Paul's Community College.

Reference

Mos J. (2011) Footprints tunnels to study the presence of small mustelids. Econsultancy, unpublished report.

<http://www.wildlifeweb.nl/Footprinttunnels%20to%20study%20the%20presence%20of%20weasel%20and%20stoat.pdf>

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