



**Mammals in
a Sustainable
Environment**

Title: Tramore Dunes Small Mammal Survey, 12th & 13th October 2011

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Figure 1: MISE staff and volunteers collecting small mammal bait pots. Photo: Denise O'Meara



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Introduction

The Tramore Dunes small mammal survey was organised by MISE as an event to attract interest in the project in the local area, and to train local volunteers in small mammal survey methods. We were helped in organising this event by Alan Walshe, a local wildlife expert, who has built up a network of local contacts and volunteers through leading guided walks in the area. On Wednesday the 12th of October, eight volunteers and MISE staff gathered at the car park at the point closest to the salt marsh bordering the Back Strand (Figure 1). We used this event to train volunteers in two methods of non-invasive small mammal surveying, which are outlined below.

We chose to carry out this survey in the Tramore Back Strand and Dunes as it is an easily accessible area for training purposes. The Dunes also support a resident population of foxes¹ and regular visits by raptors (kestrels have been recorded here¹), which would indicate that there are also small mammal prey species present. However, the small mammal species composition of the Tramore Dunes is unknown, to the best of our knowledge. Pygmy shrews, wood mice, brown rats, house mice, bank voles, greater white shrew and hedgehogs have all been recorded in Co. Waterford^{1, 2}. However, there appears to be no record of any of these species in the Tramore Dunes or the marshes in the immediate area, although there are records of bank voles and hedgehogs in the general vicinity of Tramore Bay¹.

Methods

Bait pots

Bait pots have been used successfully by MISE in primary schools across Co. Waterford to identify small mammal species via genetic analysis of faecal pellets left behind in the pot. On the first day, we set out two transects of five bait pots each across the length of the salt marsh. Transect 1 was located on the west side of the section of salt marsh surveyed, and Transect 2 was on the east side; both transects were laid out in a straight line from east to west (see Figure 2). Each pot was baited with peanut butter to attract small mammals (mice, voles, shrews) and was hidden in a clump of vegetation to provide cover for visiting mammals. These pots were left out overnight and checked on the second day of the survey. Once the pots had been checked, a third bait pot transect of five pots was set out to the east of transect 2, at the westernmost extent of the main sand dune system of the Tramore Burrow. This transect was also left out overnight before being collected and checked for small mammal faecal pellets

Footprint tunnels

We also used hedgehog footprint tunnels, which have been successfully used in a pilot study by members of the Mammal Society in the UK, and which we have also recently used successfully in primary schools. We set out two hedgehog footprint tunnels in suitable areas

of long grass in the sand dunes next to the salt marsh, which were baited with hotdogs and peanut butter. They were then lined with sheets of white paper and pads of absorbent material smeared with (non-toxic) poster paint to show up footprints of visiting mammals. Tunnel 1 was placed between the pot transect 1 and pot transect 2, and tunnel 2 was placed at the eastern end of transect 2 (Fig. 2). As with the bait pots, the tunnels were left overnight and checked the following day.



Figure 2: Map of small mammal bait pot transects and hedgehog footprint tunnels. Red lines show transects, blue dots show tunnels.

Results

Bait pots

On transect 1, on the western side of the salt marsh, it appeared that none of the pots had been visited (Figure 3). On transect 2, three out of the five pots had been displaced and all of the peanut butter was gone, which probably indicated that one of the resident foxes had visited them. The pots on transect 3 were similarly untouched.



Figure 3: A picture of one of the bait pots from transect one, which was untouched by small mammals. Photo: Denise O'Meara

Footprint tunnels

Our hedgehog footprint tunnels were similarly unsuccessful, as tunnel 1 had no evidence of being visited by any mammals. Tunnel 2 had probably been visited by a fox, as it had been dragged away, torn open and licked clean.

Discussion

The negative results from the survey indicate that the immediate area that the transects and tunnels were located in may not be suitable for small mammal species. There are a few possible reasons for this. There is considerable human disturbance from walkers only a short distance from the salt marsh (less than 100m away), which may have a deterrent effect on small mammals. Secondly, the salt marsh may not have enough cover to act as hiding places from predators such as foxes and kestrels, which are known to inhabit and hunt on the sand dunes and salt marsh. Although there are low bushy plants such as sea purslane and some areas of rank grass, there is a lack of brambles and taller bushes which would provide cover in other areas. Finally, the salt marsh itself may not be suitable habitat, possibly due to a lack of prey or other factors.

However, it is possible that with further work in this area, some evidence of small mammals living here could be found. In particular, the main area of sand dunes further to the east of the salt marsh is subject to much less disturbance from humans, and has a more varied selection of plants (including much denser grassland and bushes), which would provide more opportunities for small mammals to find food and hiding places. Also, further surveys of the salt marsh in spring and summer may prove to be more successful, in contrast to our autumn survey.

Despite the negative results, the training aspect of the event was successful, and all of the volunteers who attended said they would be very interested in attending further events and surveys, which we intend to plan for the coming months to expand our urban wildlife work in Tramore.

Acknowledgements

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References

1. National Biodiversity Data Centre species maps. <http://maps.biodiversityireland.ie>
2. Mammals in a Sustainable Environment report, 2012. Small Mammals in Schools, 2011 (unpublished).