



**Title: A preliminary report from the Co. Waterford otter survey, September 13<sup>th</sup> to September 15<sup>th</sup>, 2013**

**Authors:** Andrew Harrington<sub>1</sub>, Denise O'Meara<sub>2</sub>, Catherine O'Reilly<sub>2</sub>, David O'Neill<sub>2</sub>, Bernadette Guest<sub>1</sub>, Edel Sheerin<sub>2</sub> and Peter Turner<sub>2</sub>.

**Affiliations:**

1. Mammals in a Sustainable Environment (MISE) Project, Waterford County Council (WCC), Tramore Civic Offices, Tramore, Co. Waterford.
2. Mammals in a Sustainable Environment (MISE) Project, Waterford Institute of Technology (WIT), Cork Rd., Waterford.



Otters, Dungarvan Harbour, Co. Waterford. (Photo: Brian Power)

**Contact:** Andrew Harrington, **Email:** [aharrington@waterfordcoco.ie](mailto:aharrington@waterfordcoco.ie)

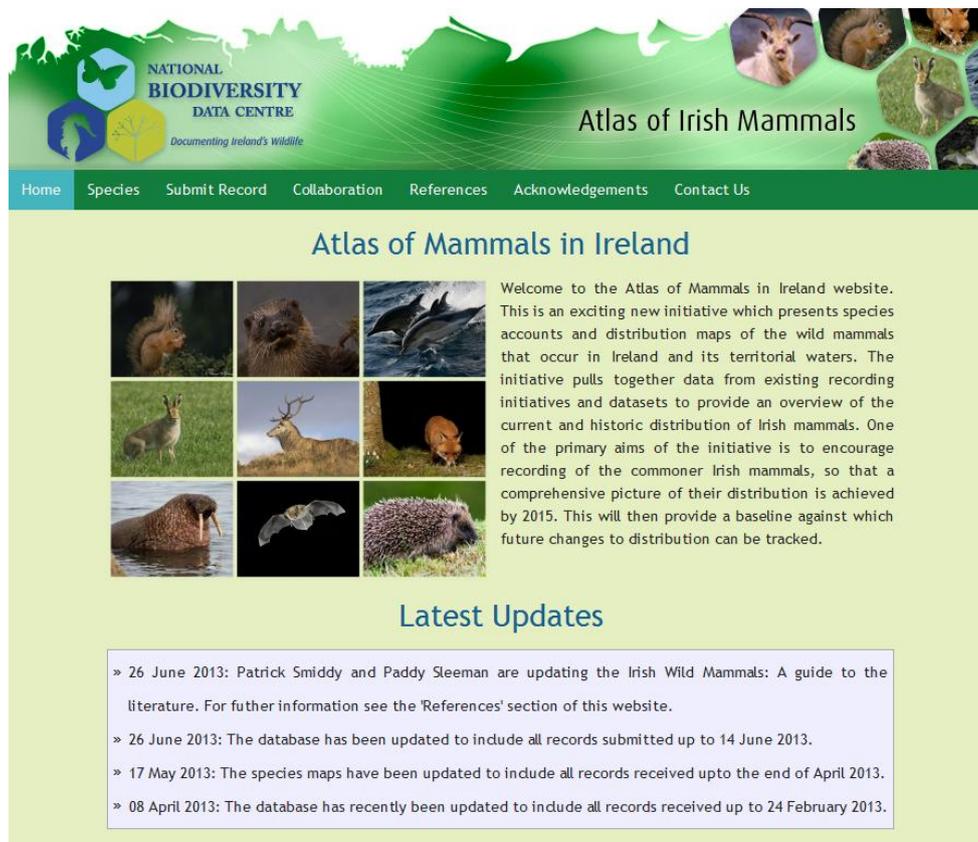
**Phone no:** +353-86-4135544 or +353-51-395502



## Introduction

The 2013 Waterford otter survey is the third in a series of otter surveys carried out in the same area of Waterford since 2011 by the MISE Project. In addition, two springtime otter surveys have been carried out in the Comeragh Mountains, and all survey sites for the Waterford Otter Survey were monitored on a monthly basis from October 2012 to August 2013. Thus far a very large amount of information has been collected on the distribution of otters in the study area of this survey, and the 2013 survey will be the final otter survey in this area that will be carried out by the MISE Project to allow for DNA analysis of samples. The results of these surveys will be discussed in more detail below.

As in the previous two years, MISE staff and volunteers gathered in Dungarvan on the evening of Friday the 13<sup>th</sup> of September for several talks. An introduction to the MISE Project was given by Peter Turner from WIT, followed by a very interesting talk by Liam Lysaght from the National Biodiversity Data Centre on the current progress of the Atlas of Irish Mammals 2010-2015 (for more details see <http://mammals.biodiversityireland.ie/>, Fig. 1), the first of its kind for this country. As in previous years, we were also delighted to be joined by staff and volunteers from the Welsh side of the MISE Project, and an overview of the otter survey work carried out by the MISE Project in Wales was given by Ceri Morris, project officer with Natural Resources Wales. Also as per previous years, all MISE staff and volunteers attended a training workshop on surveying for otters given by Chris Hall from Snowdonia Mammal Group on the Saturday morning before the survey began.



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## Atlas of Irish Mammals

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### Atlas of Mammals in Ireland

Welcome to the Atlas of Mammals in Ireland website. This is an exciting new initiative which presents species accounts and distribution maps of the wild mammals that occur in Ireland and its territorial waters. The initiative pulls together data from existing recording initiatives and datasets to provide an overview of the current and historic distribution of Irish mammals. One of the primary aims of the initiative is to encourage recording of the commoner Irish mammals, so that a comprehensive picture of their distribution is achieved by 2015. This will then provide a baseline against which future changes to distribution can be tracked.

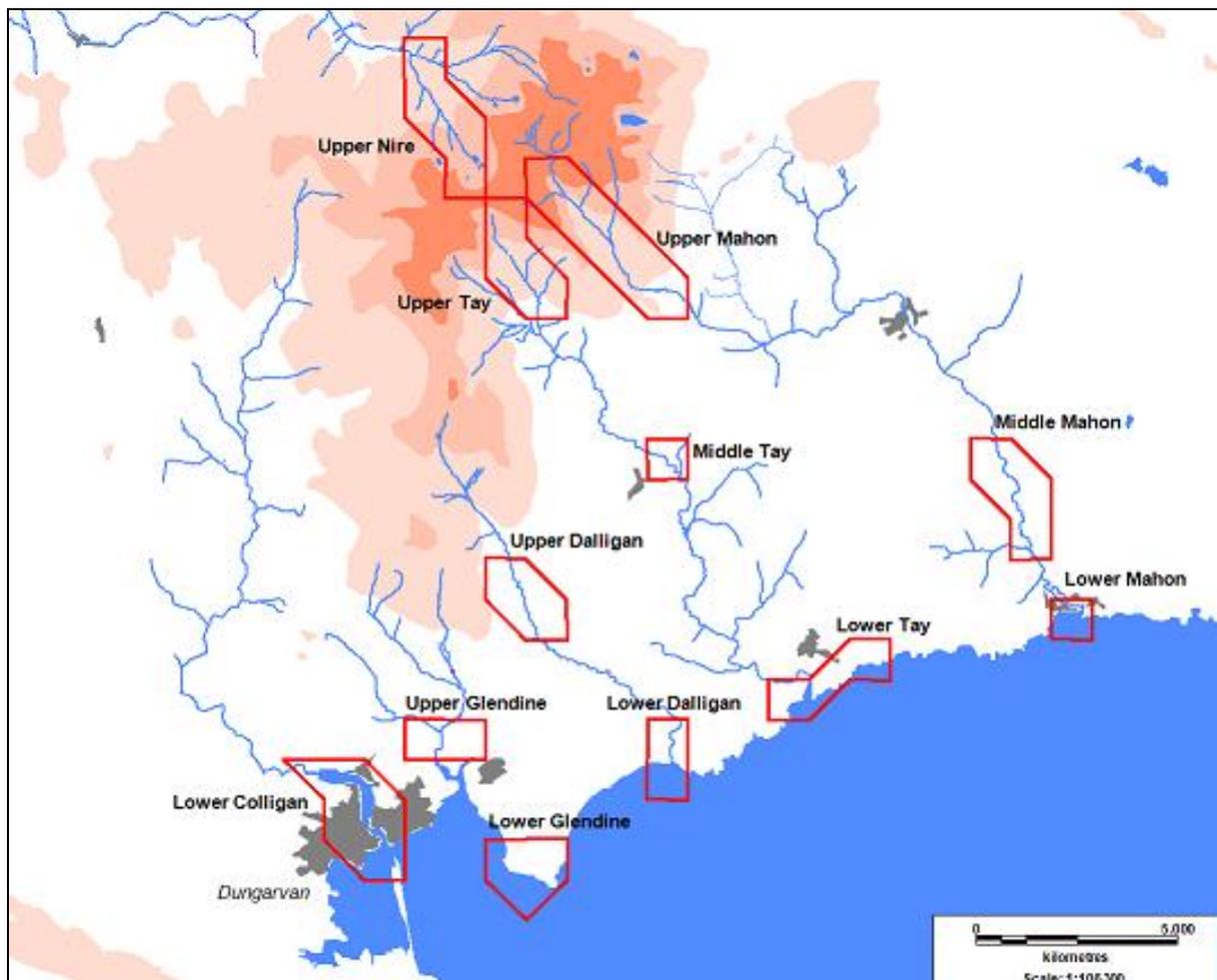
#### Latest Updates

- > 26 June 2013: Patrick Smiddy and Paddy Sleeman are updating the Irish Wild Mammals: A guide to the literature. For further information see the 'References' section of this website.
- > 26 June 2013: The database has been updated to include all records submitted up to 14 June 2013.
- > 17 May 2013: The species maps have been updated to include all records received upto the end of April 2013.
- > 08 April 2013: The database has recently been updated to include all records received up to 24 February 2013.

**Figure 1.** Atlas of Irish Mammals homepage (<http://mammals.biodiversityireland.ie/>)

**Method summary:**

Landowner permissions were obtained for a selection of sites including both freshwater and coastal habitats in County Waterford (sites are listed in Table 1). Twelve sites were surveyed (down from thirteen in 2012) on six rivers which rise in the Comeragh Mountains (Figure 1). All otter spraints collected within the site were bagged individually to avoid cross contamination, which was important for DNA analysis. A GPS location was recorded for each otter spraint. All potential otter tracks, field signs and holts (dens) were also recorded.



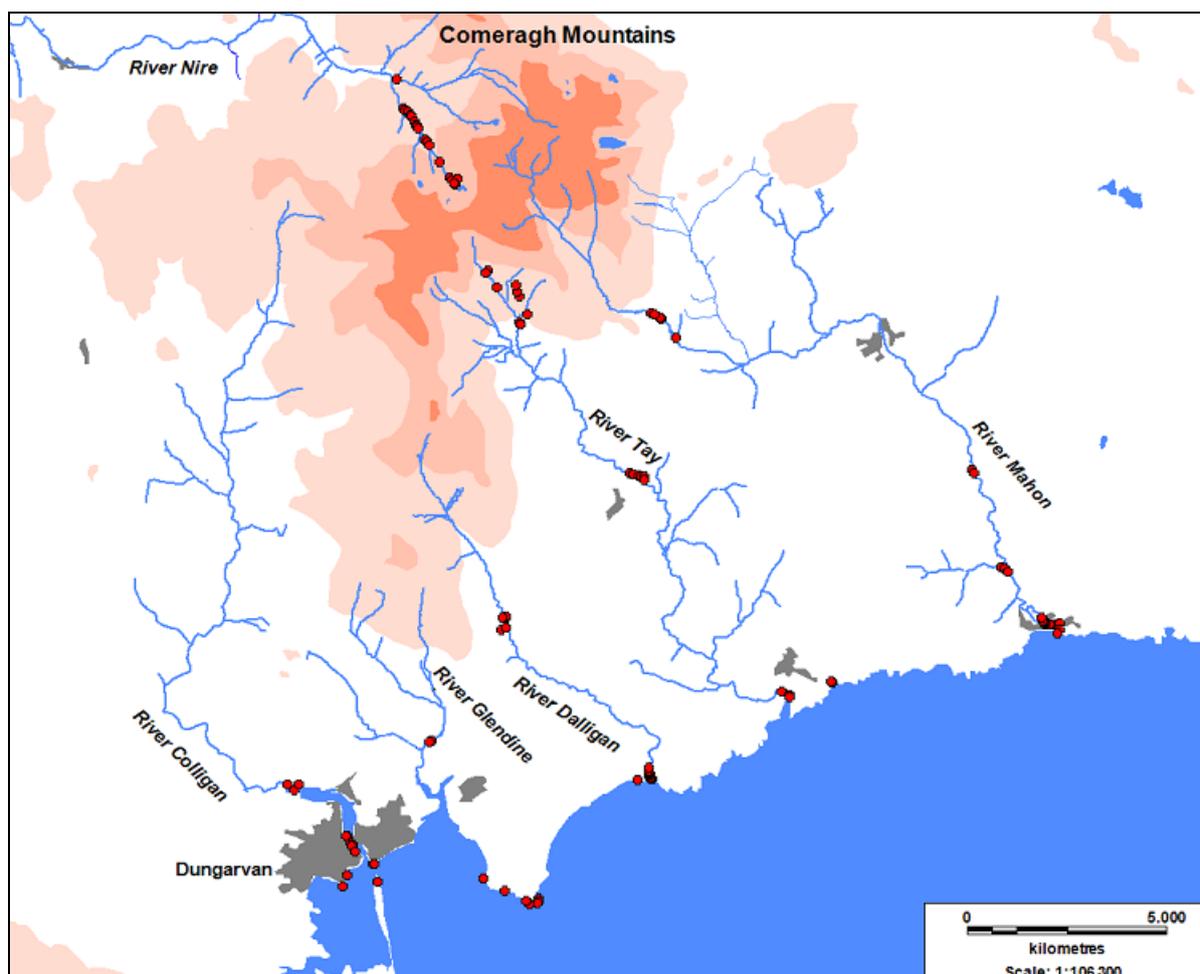
**Figure 2.** Sites surveyed for the presence of otters in County Waterford, September 2013.

## Preliminary Results

All rivers surveyed yielded samples, from every site that was surveyed (Table 1); in total, 12 sites were surveyed (down from 13 in 2012). In total, 381 samples were collected, of which 356 were considered to be otter spraints. As in 2011 and 2012, the coastal sites were the most productive sites overall. However, the single most productive site this year was the Middle Tay at Lemybrien where 65 samples were collected (the exact number of spraints which were collected at the Middle Tay last year also!). Another upland site was added this year on the Upper Nire, on the opposite side of the Comeraghs to the other rivers. As in previous years, the upland sites generally yielded the fewest otter spraints, although 44 spraints were found in the Upper Nire, which compares with the most productive coastal sites. Figure 2 shows the geographical location of spraints collected. Droppings possibly from mink and pine marten were found at several sites and these will also be genetically tested to verify the species of origin.

River	Coastal area		Inland area		Upland area		Overall	
	Otter	Other	Otter	Other	Otter	Other	Otter	Total
Nire	n/a	n/a	n/a	n/a	39	1	39	40
Colligan	52	0	n/a	n/a	n/a	n/a	52	52
Glendine	32	0	5	0	n/a	n/a	37	37
Dalligan	44	1	9	16	n/a	n/a	53	70
Tay	45	1	65	3	8	2	118	124
Mahon	40	1	8	0	9	0	57	58
<b>Overall</b>	213	3	87	19	56	3	356	381

**Table 1.** The number of potential otter spraints and other samples that were collected in each river along coastal, inland and upland habitats. “Other” samples include samples collected that were not thought to be otter. “n/a” means that these areas were not surveyed. All samples will be species tested using DNA analysis.



**Figure 3.** Map of mid-County Waterford showing the rivers surveyed and areas where signs of otter activity were found (red points).

## Discussion

As in previous years, the 2013 otter survey was a great success from both a volunteer and community involvement and scientific data collection point of view. As always, we were very pleased to see volunteers returning to participate from previous surveys, as well several new faces.

The preliminary results of this survey show a similar level of otter activity to what has been found in previous years. In total, 381 samples were collected during this main otter survey in 2013, which most likely includes a small number samples from “non-target” species. This compares with 390 samples collected in 2012 and 254 in 2011, so in total 1025 samples have been collected in the three years of the main Waterford otter survey. In addition, during the springtime Comeragh Mountain otter surveys (focusing on the Upper Nire and Upper Tay sites), 162 samples were collected in 2012 and 34 samples collected in 2013, and 460 samples were collected in total from 17 sites in the study area between October 2012 to August 2013. **This brings the entire number of samples collected during otter surveys in this study area between October 2011 and September 2013 to 1681.** For a timeline of the otter surveys carried out by MISE in this part of Waterford, see Appendix 1 below.

The samples from the first Waterford otter survey in 2011 have been fully analysed, up to the point where suitable samples have been “genotyped” to identify individual otters. 59 individual otters were identified in the study area (not including the River Nire). The first Comeragh otter survey samples from March 2012 have also been fully analysed. This smaller-scale survey focused only on the upper reaches of the Rivers Tay and Nire in the Comeragh Mountains, but still identified 15 individual otters from this small area, none of which were identified from samples from the previous survey, thus giving a total of 74 individual otters which have been identified in the entire study area so far.

At present, the samples collected during the Waterford otter survey 2012, the Comeragh otter survey of spring 2013, and the 2012-2013 “monthly monitoring” otter samples have been largely analysed to genetically identify otter samples, and to determine the sex of the otter which deposited each spraint sample, but the final genotyping of suitable samples has yet to be completed. Together with the new batch of samples from the 2013 Waterford otter survey which need to be fully analysed, it may be some time yet before the full set of results emerges.

However, the results from first two otter surveys provide us with a baseline with which to compare our later results and already give us very interesting information on the otter population in this study area in County Waterford. It should be noted that the identification of 74 individual otters can only be regarded as a minimum estimate of the true otter population in the entire study area, for numerous reasons. Firstly, not all otter spraint samples collected contain enough DNA to enable us to identify individual otters, as the amount of otter DNA may vary from spraint to spraint and DNA (like all organic material) degrades when it is exposed to the elements for some time before collection. Secondly, not all otters actually present in an area may leave spraints at the exact time or place that would allow surveyors to find and collect them. Thirdly, as is obvious from the maps in Figures 1 and 2, only a fraction of the actual length of the rivers of interest in the study area were or could possibly be surveyed due to the constraints of terrain, landowner permissions and time, so there may be otters living in areas not covered by survey sites. Therefore it is almost certain that there are more otters living in this area than we can identify, but it is difficult to get an idea of how many more otters may be living in the area.

Despite these inherent difficulties, a minimum population estimate is better than no estimate! The information from the first two surveys gives a “snapshot” picture of the otter population in this part of Waterford. We hope that as results from subsequent surveys emerge we will gain a better idea of the size of, and movements within, this population. We hope that we will obtain a more accurate minimum population size estimate once we have data from all three years of the main survey. Also, once we have information over a period of time, we may begin to find individual otters repeatedly over time, and identify them as being resident in a certain area or simply transient animals passing through. We also anticipate that the spraints collected on a monthly basis will provide us with even more detailed information on the movements of at least some animals, in some way bridging the gap between two of the main surveys.

**Acknowledgements:** We would like to thank all of our volunteers, speakers and experts for the wonderful weekend that was enjoyed by everyone. We hope to be able to update you with our DNA results and final report in due course and we hope that you will join us again on future surveys.

**Appendix 1.** Timeline of MISE otter surveys in mid-Waterford, 2011-2013.

1. **October 2011**- Waterford Otter Survey 1 (“main survey”)
2. **March 2012**- Comeragh Otter Survey 1
3. **October 2012**- Waterford Otter Survey 2
4. **October 2012-August 2013**- Waterford Otter Monthly Monitoring
5. **March/April 2013**- Comeragh Otter Survey 2
6. **September 2013**- Waterford Otter Survey 3