

Iveragh Lizards – Final Report

Introduction

In May 2021, the LIVE Project launched the citizen science program ‘Iveragh Lizards’. The aim was to engage residents and visitors to the Iveragh peninsula with one of Ireland’s most elusive native animals – the common lizard. We created a range of free educational resources about the species and made them available through our project website, and spread the word via radio, newspaper, and social media channels. We asked people to submit lizard sightings to a portal on our website and soon we were receiving records from all over Iveragh and beyond.

“Why the common lizard?” you might ask. They are Ireland’s only native terrestrial reptile and have been here at least since the last ice-age ended over 11,000 years ago. There are amusing stories in our folklore about mischievous lizards stealing our food and they are mentioned in early [written accounts of Irish life](#) from the 1100’s. But despite their long history here, many people are still unaware we have a native reptile while many others know about their presence but are yet to spot one of these shy animals.

The contribution of records by citizen scientists is important to many distribution, biodiversity, and conservation initiatives all over Ireland. The National Biodiversity Data Centre holds many of these records and has over 1,000 sightings of common lizards in Ireland. Yet very little work has been conducted on the distribution of the species here. Combining the resources of the LIVE Project with the help of the public, Iveragh Lizards was the ideal opportunity to examine the distribution of this charismatic animal on a more regional scale. Collecting data on where lizards are being seen and at which time of year may contribute to understanding which areas are important to the species and therefore aid in their conservation.

National distribution

To investigate the distribution of records for the common lizard in Ireland, the 1,000+ records that were available on the National Biodiversity Data Centre were examined. These records dated from 1902 to 2021 and were gathered by various organisations and citizen scientists. These records appear to have a largely coastal distribution with clusters of records coming from popular recreational hubs such as the Wicklow mountains (Figure 1). The database includes records from previous studies on the common lizard in Ireland that were conducted in the late 1970’s (Ní Lamhna), and the 2000’s (Marnell; Meehan). Comparing the distribution of records from these three studies, consistent areas of data gaps (areas from which no lizard records occur) consistently remained blank year on year, while records from coastal areas and recreational hubs increased over time.

Why are such patterns being seen? There are likely several factors at play. [Met Éireann data](#) shows that Irish coastal regions receive more sunshine, a natural phenomenon which occurs due to cloud formation increasing over inland and upland areas. Lizards are ectotherms, meaning they cannot generate or control their own body temperatures. They tend to prefer south facing habitats where they can bask in the sun to heat up or move beneath rocks or vegetation when they need to cool down. This need to bask perhaps means they are more prevalent, or even more abundant and therefore more frequently encountered, in areas receiving more sunshine – such as coastal areas.

Another reason could be that lizard records are higher in certain areas compared to others because of our own tendency to head for the coast or recreational hubs in good weather. The times of year when lizard records peak coincides with Easter and summer school holidays. Lizards emerge from hibernation in spring to mate while summer is when females give birth. Late summer is also when lizards are busy hunting for food to build fat stores before hibernation in Autumn. The active season of the species, plus their tendency to like sunny weather, overlapping with the time of year when we are spending a lot of time in the great outdoors could explain why records for the species show these distribution patterns.

But there are few areas of Ireland where nobody goes, so why are there blanks in the map with no lizard records? This is a tough one. In terms of the national distribution seen in Figure 1, many areas which consistently lack lizard records over time correspond with areas of more intensive agriculture. Although well camouflaged and capable of a speedy getaway, lizards like mixed habitats. They need sunny spots to bask, nooks and crannies to hunt for spiders and flies, along with undisturbed cavities in which to hibernate. Old stone walls, hedgerows, sand dunes, or peatland are habitats which provide for such requirements. Large monocultures or areas of intensive agriculture do not. However, the only way to really test if habitat type is the reason for blanks on the distribution map is to survey for lizards in these places. Another reason for these data gaps could simply be that they are places where nobody has looked....yet.

Iveragh distribution

Iveragh Lizards received a total of 102 submissions, 68 of which came from Iveragh. Verified records have been passed to the National Biodiversity Data Centre where they can be accessed by individuals and organisations through the [LIVE Project dataset](#). Figures 2 and 3 show the location of records on both the national and Iveragh scales. Both maps appear to show a mostly coastal distribution of records – highlighted in more detail in Figure 4. When the records for Iveragh are examined, a trend for records to coincide with recreational hubs such as popular beaches or walking trails can be seen (Figure 5). This is similar to what was

seen on a national level. Does this mean that lizards are only found in coastal areas or recreational hubs? Possibly, but it may also be due to these areas being where people frequently visit on Iveragh and therefore increase the chance of lizards being seen and reported.

But what is particularly interesting is that many of the records of lizards from Iveragh were from places where no records previously occurred on the National Biodiversity Data Centre. When Iveragh Lizards started collecting records, blanks on the map began to fill in. This can be seen when Figures 6, before Iveragh Lizards, and 7, after Iveragh Lizards, are compared. This is a clear example of where citizen science can assist in scientific studies of a species – especially one that is small (14cm), has a short active season (March to October), and is tricky to see. A more focused search for lizards on Iveragh where no records occur is needed to really narrow down what is happening. Are they harder to see in these places due to vegetation? Are these places more inaccessible to people due to the terrain and therefore nobody sees the lizards that live there? And if they don't occur there, why not?

A lot of time and effort was spent in creating the resources and spreading the word on Iveragh Lizards. This is often an argument against the use of citizen science in research studies. However, this study shows that a focused regional citizen science campaign can have a positive impact on filling in data gaps in a local area. This smaller scale regional data may then be used to infer the distribution of a species on a larger scale such as county or even national level. In other words, if focused studies like this were conducted in other areas it is likely that more data gaps would be filled in across the country. The work also made a lasting contribution; Iveragh Lizards records now account for around 10% of the national records (as of June 2023).

Something else that was highlighted by this work is the importance of smaller habitat types to many plants and animals such as the common lizard. Old stone walls, banks and hedgerows were all places where lizards were recorded. These 'microhabitats' can often be overlooked as conservation work focuses on larger scale habitats of woodlands or wetlands. This study recorded lower wind speeds within microhabitats, something which likely had a positive effect on lizards which live there considering that higher wind can reduce temperatures via the 'wind chill' factor.

Another interesting finding of the work was that 16 records came from people's gardens. The rural locations of some of Iveragh's homes and our increasing tendency for leaving wild spaces in our gardens for nature (often the aforementioned lizard friendly microhabitats) is bringing lizards close to our homes. Cats are a major predator of lizards and were unfortunately responsible for some encounters submitted to the project. Hopefully lizards can continue to enjoy munching on slugs and bugs in our gardens while avoiding prowling felines.

As for impact on the local communities, we have spoken to many individuals, community groups, and schools about their lizard neighbours and the enthusiasm has been wonderful.

Seeing the glee of someone seeing their first ever lizard is a special moment. This work also led to many great conversations about local biodiversity and the passion for conserving local wildlife was clear to see. We hope that the resources created for the project will continue to be used by the communities of Iveragh in the future and that citizen science initiatives will build on the records gathered.

The LIVE Project would like to thank everyone who submitted their lizard sightings to this work, along with those who looked but perhaps didn't see any lizards to report. Thanks also to everyone who attend our online and in-person events or downloaded our resources.

The Iveragh Lizards project was led by zoologist and LIVE Project Knowledge Gatherer, Linda Lyne. Linda conducted fieldwork looking at the habitats of Iveragh's lizards, recorded lizard sightings, and collected samples for genetic testing. As part of her work, Linda completed a Master's degree at University College Cork. More information on this research can be found through the open-source data repository [CORA](#) via the Master's thesis, when a 12-month publication embargo has ended.

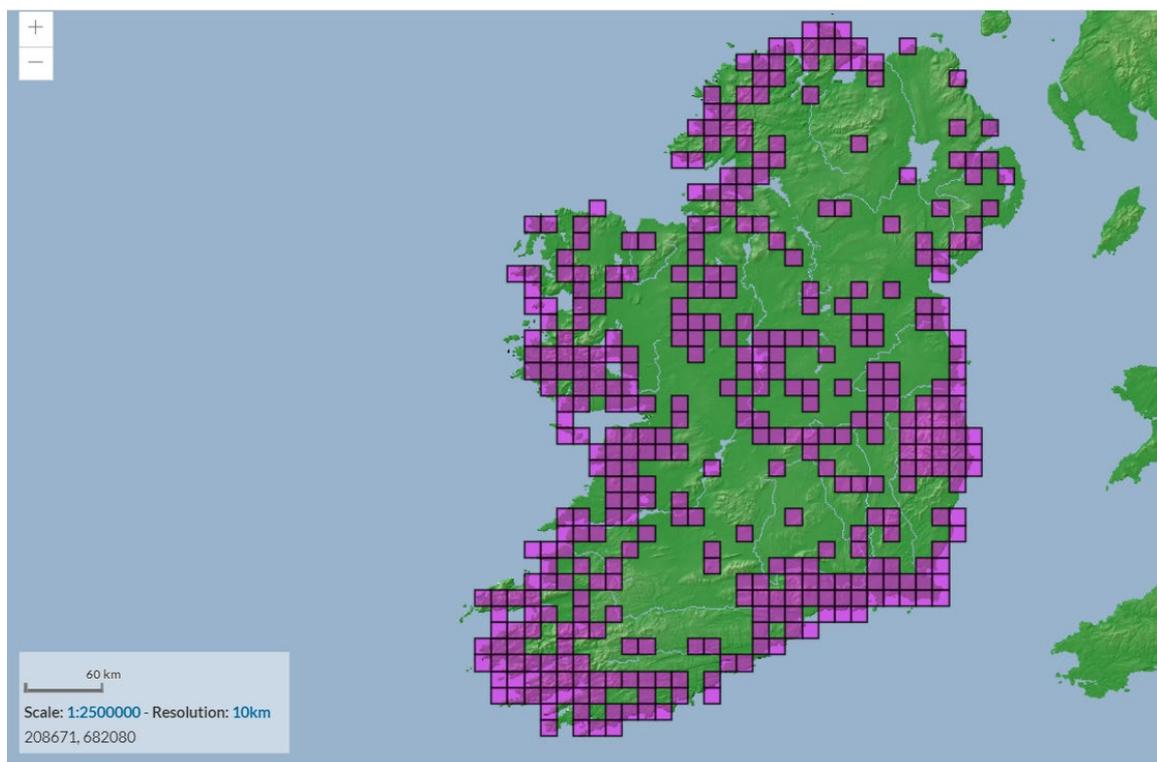


Figure 1 – The 'live map' view of records for *Zootoca vivipara* from the NBDC website (accessed July 7th 2022). Each purple box represents a 10km² area. Note the gaps with no records - in parts of north Cork, Limerick and Tipperary, for example.

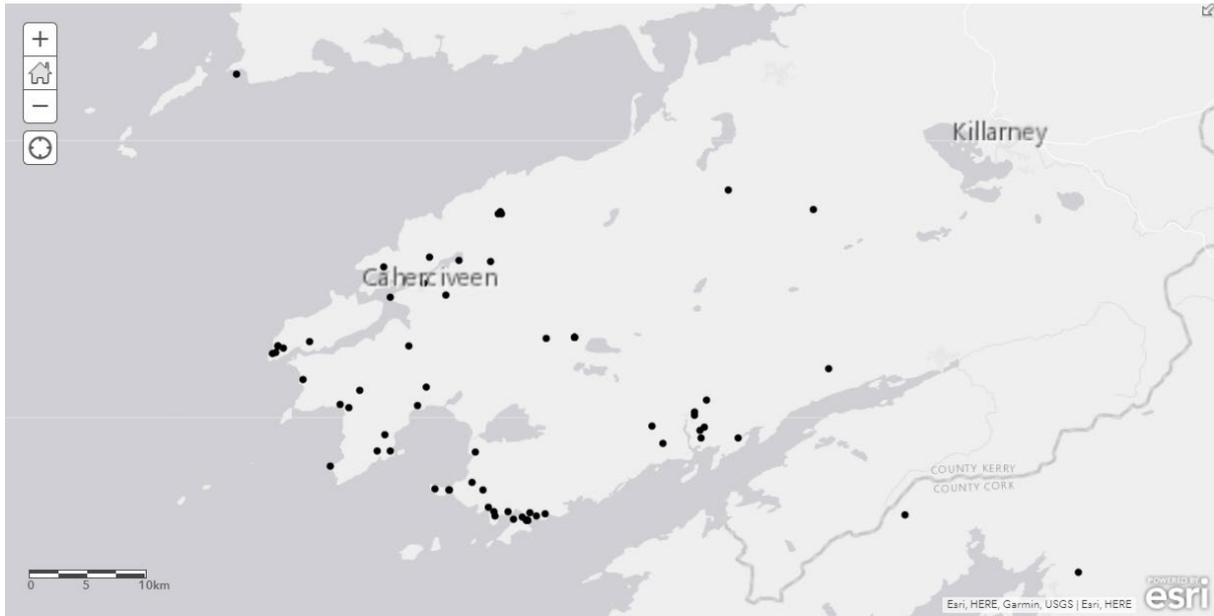


Figure 2 – Distribution of the 68 submissions to the Iveragh Lizards portal from the focus study area of the Iveragh Peninsula, County Kerry, dating from 2021-2022.

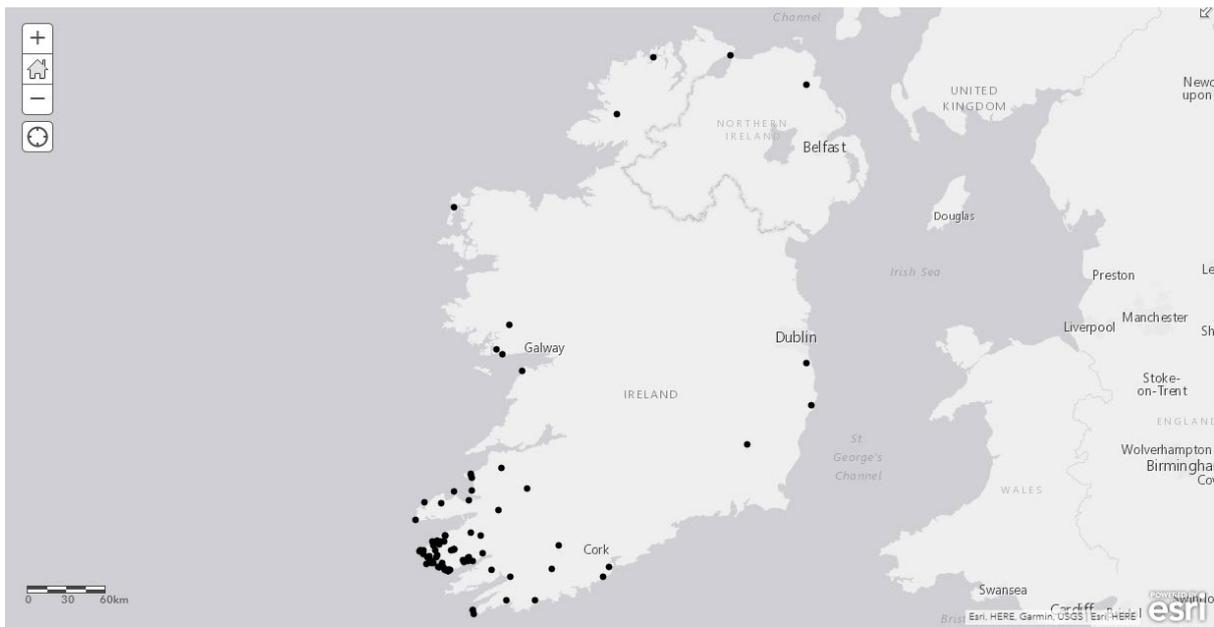


Figure 3 – National distribution of the 102 submissions to the Iveragh Lizards portal years, dating from 2021 to 2022.

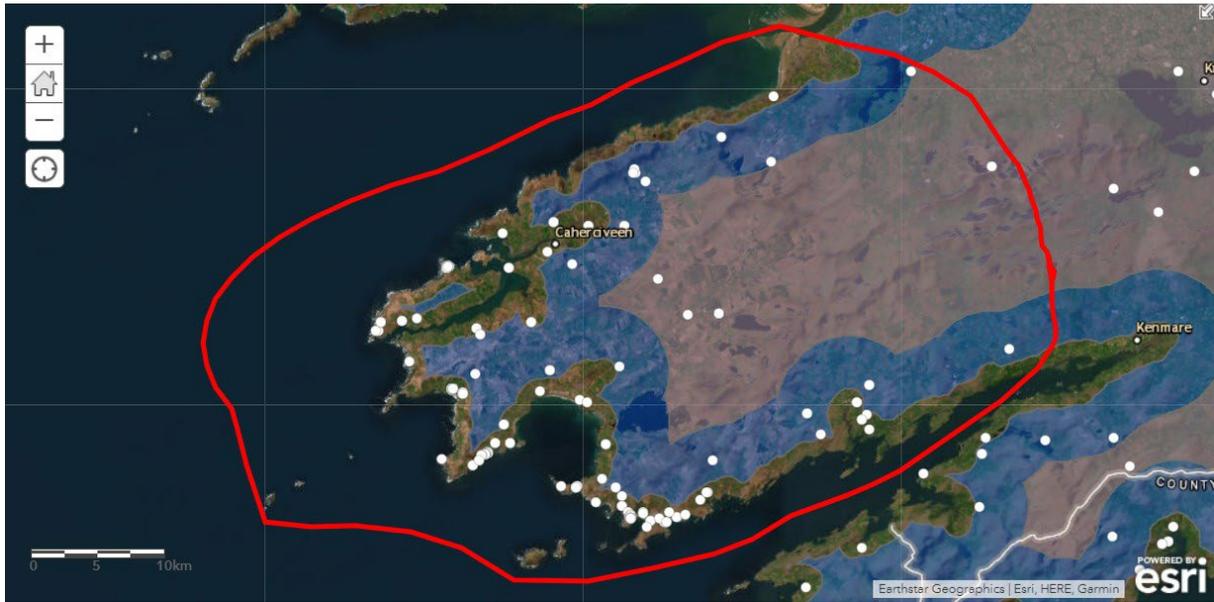


Figure 4 – Encircled in red is the Iveragh Peninsula study area. Buffer zones measure distance from the coast. The green buffer area is within 1km of the coast. The blue buffer zone combined with the green, extends to 5km from the coast. The brown zone is greater than 5km from the coast.

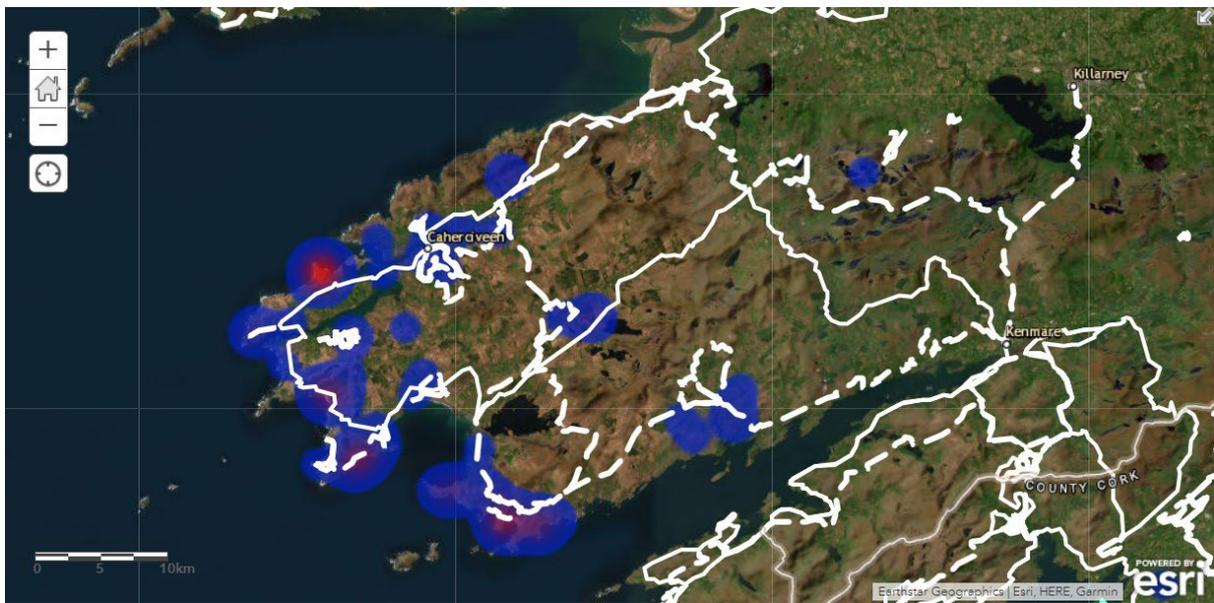


Figure 5 – A heatmap of records from the Iveragh Peninsula overlaid with walking and cycling routes provided by Sport Ireland.

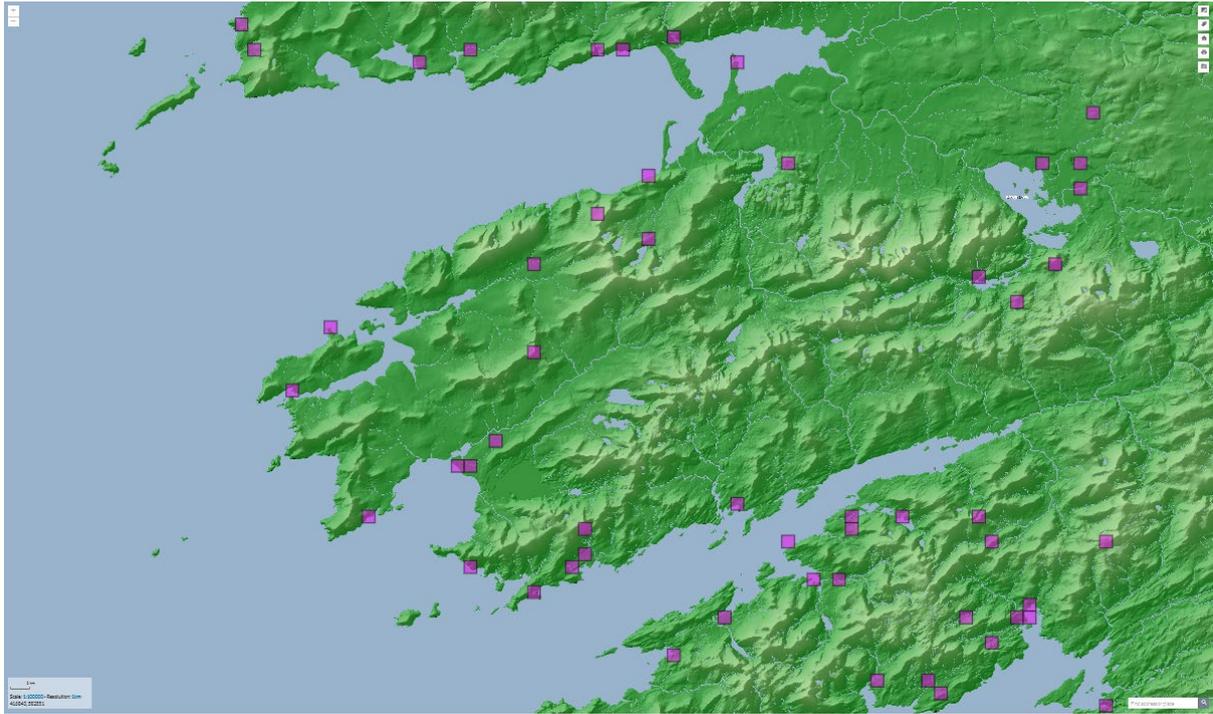


Figure 6 – Records on the National Biodiversity Data Centre before Iveragh Lizards.

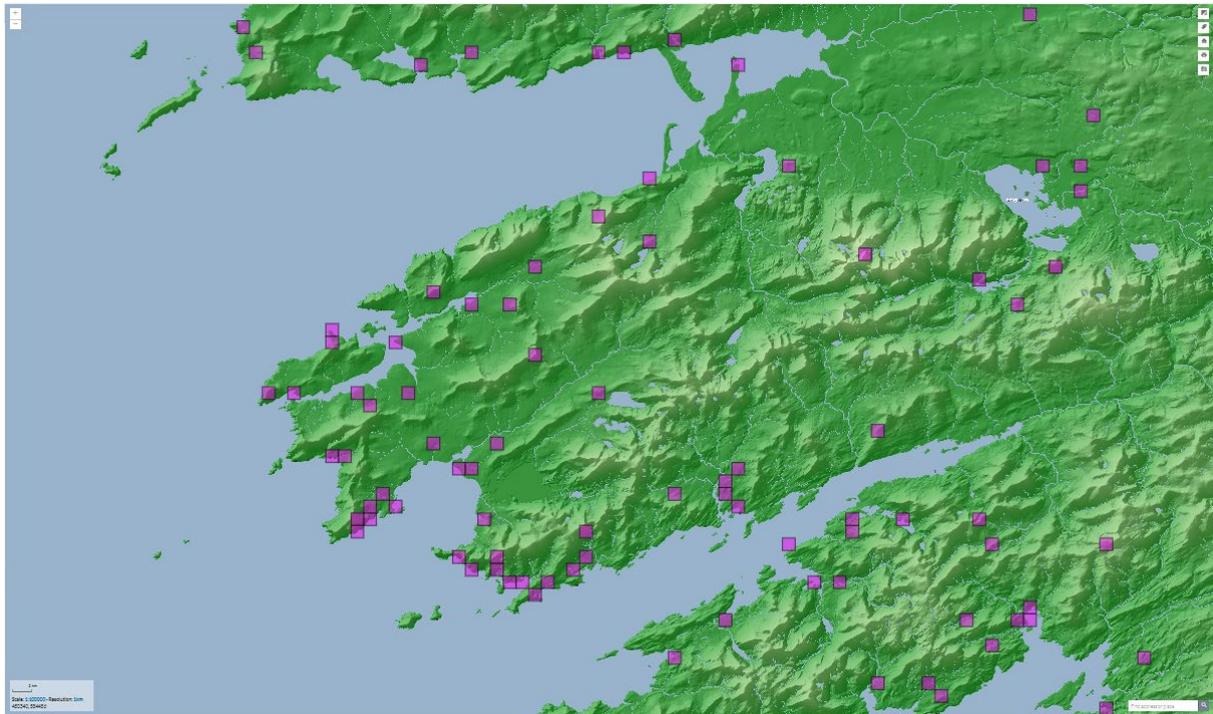


Figure 7 – Records on the National Biodiversity Data Centre following Iveragh Lizards.

Additional images:



Old stone walls are ideal places to spot lizards as they bask in the sun. Image: Linda Lyne

Á LORG

An bhfaca tú an laghairt sco?

Is maith léi a bheith faoi ngrian
14 cm ar fhad



An raibh a fhios agat go raibh speiceas dúchasach laghairteanna in Éirinn?

An bhfaca tú ceann de na laghairteanna seo in aice leat? Má chonaic, teastaíonn uainn scéala a fháil uait.

Tá an togra LIVE ag cur fáilte roimh bhaill den phobal taifid den **Laghairt Choiteann** a chur isteach ar líne. Cabhróidh an togra eolaíochta suoiríní seo fáil amach cé chomh foilesthan agus atá an speiceas ar leithinis Uíbh Ráthaigh agus faoi son treochtaí ina geuid gnáthoga.

Is cuma an ar chúl do thi a chonaic tú i nó ar stiúilóid sléibhe – tá tábhacht ag baint le gach son taifead!

Má chonaic tú an Laghairt Choiteann inis dúinn faoi ar ár suíomh idirlín: www.ecomuseumlive.eu/commonlizard nó scan an barrachód sco.



Inis dúinn cá bhfaca tú an Laghairt! #LaghairtUibhRáthaigh

live

For more information visit www.ecomuseumlive.eu



Eye-catching posters were part of the campaign to raise awareness of the Iveragh Lizards project.



A well camouflaged lizard spotted by Sorcha Ní Chatháin and submitted to Iveragh Lizards.