



*An Roinn
Ealaíon, Oidhreachta agus Gaeltachta*
*Department of
Arts, Heritage and the Gaeltacht*



Department of
**Agriculture, Environment
and Rural Affairs**
www.daera-ni.gov.uk

Bat Conservation Ireland BATLAS 2020

Volunteer Survey Manual 2017

The BATLAS 2020 is funded by the National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht in ROI and NIEA/Councils in Northern Ireland.



Thank you very much for agreeing to take part in the BATLAS 2020. The programme is administered by Bat Conservation Ireland, a charity dedicated to the conservation of bats in Ireland. Assessing the distribution of bat species has been identified as a priority under the EUROBATS agreement and thus the primary purpose of the BATLAS project is to build a BAT ATLAS (hence the name “BATLAS”) for our endemic bat species in Ireland.

BATLAS 2010 was the first distribution survey of bats across the island, with surveying completed between 2008-2009. BATLAS 2020 aims to build on the results of the 2010 project, and in so doing update our knowledge of bat distribution across the whole country. Surveying for BATLAS 2020 will be conducted through 2016 - 2018 and as with the 2010 survey, it will be focussed on mapping the distribution of 4 target species – the common and soprano pipistrelles, Leisler’s bat, and Daubenton's bat. BATLAS is a “Citizen Science” project with surveying being completed by a large team of skilled volunteers. People who are already happy with surveying for these 4 target species using bat detectors are invited to participate. New volunteers will be offered training in bat survey skills to facilitate their participation in the BATLAS 2020 programme.

We hope you find this an enjoyable survey and you can be assured that you are making an important contribution to bat conservation.

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BACKGROUND (BATLAS 2010 & BATLAS 2020 PILOT)

What we did 10 years ago...

In 2008-2009 we embarked on BATLAS 2010, an island-wide survey to increase our knowledge of the distribution of four bat species; common pipistrelle, soprano pipistrelle, Leisler's bat, and Daubenton's bat. Surveys were carried out in 10 km grid squares throughout the island, approximately 75% of the total numbers of squares were surveyed.

What we found from BATLAS 2010...

The BATLAS 2010 project vastly increased the number of records on our database for these species and indicated that many are absent from coastal areas of the north and west of Ireland. Also, the survey showed that the soprano pipistrelle is the most widely distributed species on the island. The common pipistrelle may be equally or even more common but it is absent from some parts of the extreme north and west. Leisler's and Daubenton's bat are also widespread species but have a more localised distribution.

Updates to the scheme for BATLAS 2020...

As well as increasing attempting to increase the range of the survey, for BATLAS 2020 we decided that it would be beneficial to also increase the resolution of the data recorded. For BATLAS 2010, volunteers selected 3-4 sites within a 10km grid square; for BATLAS 2020 the 10km² survey squares are broken down further into four 5km² quadrants (NW,NE,SW,SE) and bats are recorded at 2 sites within each of these quadrants. Surveying at this finer scale 5km² level will enable us to produce detailed distribution maps.

For BATLAS 2020 we were also interested in recording some of the environmental variables that may influence bat activity, so the scheme now includes recording characteristics of the surrounding habitat (including vegetation and water features) and the presence and type street lighting within 100m of the survey site.

The changes to the survey were tested in September and October 2015. Forty-seven surveyors participated in this Pilot Project and conducted bat surveys at 548 survey sites in 68 10km squares throughout the island.

BATLAS 2020, where are we now...

With some slight tweaks, the 2015 BATLAS 2020 Pilot Project has been rolled out for BATLAS 2020. In 2016, a total of 214 new squares were assigned to volunteers. So between 2017 and 2018 there are 732 squares left to finish.

The BATLAS 2020 surveys will fill in gaps in coverage from BATLAS 2010, and will help inform us whether species' distributions are changing on the island.

How can you be involved?

In keeping with most schemes managed by Bat Conservation Ireland, BATLAS 2020 will include a considerable 'Citizen Science' component so volunteer training, support and management will be important elements of the scheme from 2016-2018. If you are already happy with identifying the four target bat species with a bat detector we would love to have your help surveying BATLAS squares. If you are new to bat surveying, or require some assistance with identification, we invite you to join us on one of our many training BATLAS courses so that you can confidently participate in this project in the coming years.

Thank you for participating and we hope you enjoy the surveys. Good luck!

Becoming a BATLAS 2020 Surveyor

Procedure to Follow:

You can follow the video instructions [HERE](#) which will guide you through the process below.

1. Register your survey square at this [link](#).
2. View the map to find your preferred square(s). You can click on the map image to view a more detailed [zoom-able version](#) or visit <http://www.gridreference.ie/> and click on the map which will give you the square name - take the letter and the first number from Eastings and Northings to give you the square (e.g. H 573 778 = "H57").
3. Tick the County you wish to survey, this will bring up a list of squares in that County. Please note that squares which straddle two counties will only be listed under one of them. Available squares will be listed in black, those already taken will be listed in red and will not be selectable.
4. Select as many 10km squares as you wish but please be realistic as to how much time you have free to survey. A survey square typically takes 80 minutes (8 sites @ 10 minutes each), plus travel time between the survey sites. There is no rush to complete the survey and we would like you to take your time and enjoy it.
5. Fill in the relevant details. The Batlas Coordinator will receive an email informing them that you have registered and they will send you out all the information you need by email to complete your survey including:
 - a. BATLAS 2020 Manual (electronically)
 - b. BATLAS 2020 Risk Assessment sheet (electronically)
 - c. BATLAS 2020 Record Sheet (electronically – if you require printed sheets please let the Coordinator know so that this can be organised)
 - d. BATLAS 2020 Maps. For each 10km square the following maps will be provided:
 - i. 10km square map
 - ii. 4 x 5km quadrant maps (labelled according to location i.e. NW, NE, SW, SE)
 - iii. 1km square maps for any previously surveyed BATLAS 2010 survey sites in your area
6. Once you have surveyed your square according to the BATLAS 2020 methodology, please enter your survey details onto the [BATLAS 2020 results portal](#)

PLEASE READ THE METHDOLOGY BELOW TO ENSURE THAT YOU UNDERSTAND THE SURVEY PROTOCOL. IF YOU REQUIRE ADDITIONAL TRAINING, THERE WILL BE A NUMBER OF COURSES ORGANISED ANNUALLY TO FACILIATE THIS. SHOULD YOU REQUIRE HARD COPIES OF ANY OF THE INFORMATION OR SHOULD YOU HAVE ANY QUESTIONS, PLEASE CONTACT THE COORDINATOR batlas@batconservationireland.org, 00447855098642

Thank you!

METHODS

The aims of your survey are to

- Survey to record the four target bat species within your assigned 10km square.
- There are four 5km² quadrants within your assigned 10km² square, for each quadrant 2 suitable sites must be surveyed for 10 minutes each.
- There may be 2010 BATLAS survey sites within your square; where they are suitable and easy to find these should be given priority and re-surveyed; but the two survey sites within each quadrant can be both old, both new or a combination of one new and one old.

SITE SELECTION

BATLAS 2010 Survey Sites

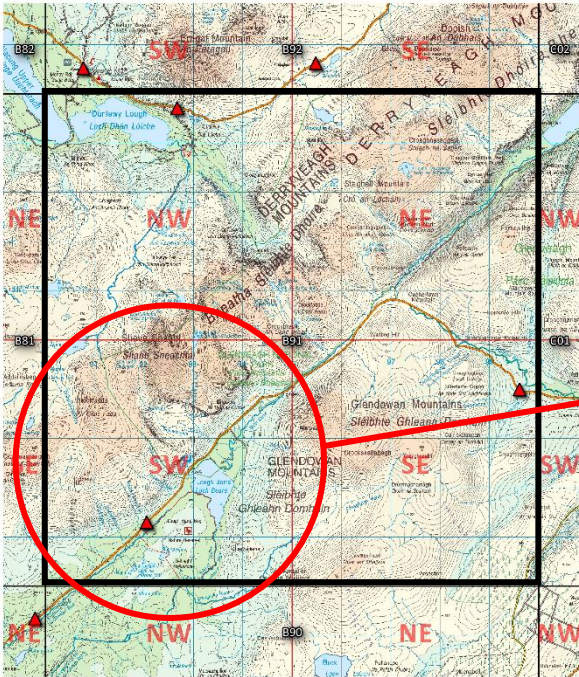
1. You will receive a map of your chosen 10km square, similar to the map shown below.
2. On this map, previously surveyed BATLAS 2010 survey sites will be marked in **red triangles**. You will receive a separate 1km map for each of these survey sites, these will also be displayed on 5km² quadrant maps. On the 5km and 1km maps they will be numbered (either 1 or 2) for ease of reference according to how many exist within each of your 5km² quadrants.
3. It is important to note that you are surveying within **each 5km² quadrant**, covering quadrants in any order you wish. **2 survey sites per quadrant** are required (so a total of 8 sites within your assigned 10km square), and BATLAS 2010 sites are preferred where they are suitable.
4. **There is no need to select new sites where there are two or more BATLAS 2010 sites within a 5km quadrant.** However, if your quadrants contain less than 2 BATLAS 2010 sites, you will be required to select new suitable sites to make up the required 2 per 5km² quadrant.

New BATLAS 2020 Survey Sites

1. If, within your 5km² quadrant, there are less than two suitable BATLAS 2010 Sites, then you select New Sites up to a maximum of **2 sites per quadrant** (to include existing BATLAS 2010 Sites if they are deemed suitable). Choose accessible sites where there is water as this will provide a greater opportunity to record all 4 target species.
2. When selecting new sites, it is preferable that you do so after taking stock of initial survey results. We would also suggest completing the BATLAS 2010 sites first where they exist so you know what species have not yet been recorded. For instance you may have recorded the 2 Pipistrelle species and Leisler's but not yet recorded Daubenton's in your 5km² quadrant; in this case we would suggest targeting any waterbodies in your square as new sites in order to increase the likelihood of recording Daubenton's.
3. Please choose new sites with accessibility in mind, so that other surveyors could easily repeat your survey in the future.
4. **It is crucial to accurately record the 10 figure coordinates of your New BATLAS 2020 Site.** The Grid Reference is the only information we can use to determine exactly where the survey was done (site names are useful for your own reference but are not considered when mapping results). You may prefer to mark it on the map and find coordinates at home. We recommend you use www.gridreference.ie/ and record the location as a 10 figure Irish Grid Reference in the format **H 26880 01196**. Please don't hesitate or worry if you need help with this, just contact the Coordinator for advice.

BATLAS 2020

Tenkm Square: B91

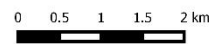
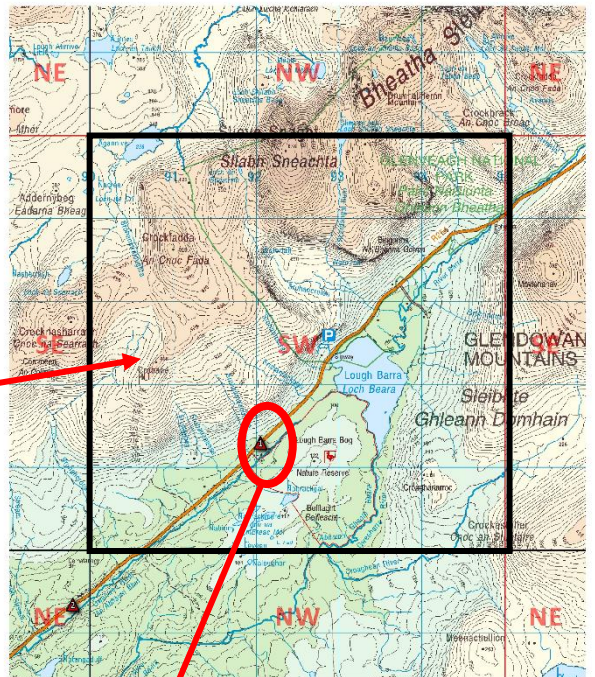


▲ BATLAS 2010 Points

10km map example

BATLAS 2020

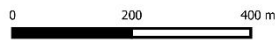
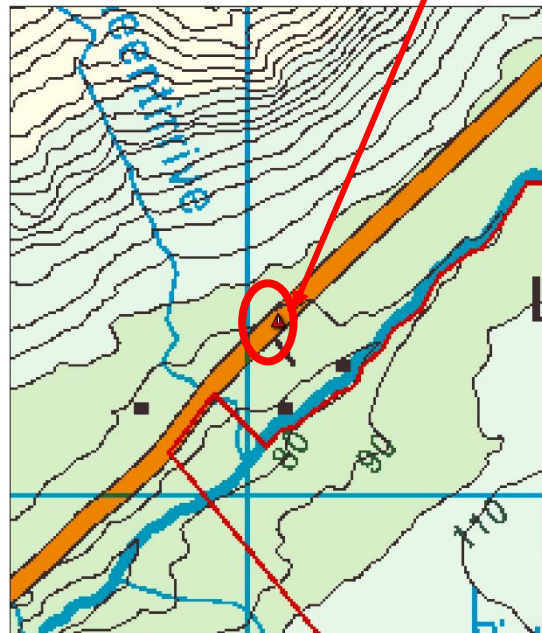
Tenkm Square: B91 Quadrant: SW



▲ BATLAS 2010 Points

5km map example

BATLAS 2020 Square: B91, Quadrant: SW GR: B 9205 11296 Point: 1



▲ BATLAS 2010 Points

1km BATLAS 2010 point map example

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WHAT CONSTITUTES A SUITABLE SITE?

To be suitable a site must be:

- Accessible without special permission (i.e. not requiring access over private land)
- It should be situated close to a convenient and safe parking place.
- It should have vegetation cover and/or aquatic habitat which are likely to be attractive to foraging bats.
- It should not require a long walk to access it.

Unsuitable sites include:

- Unsafe roads
- Sites with no safe or convenient parking
- Sites that require you to cross fields or private boundaries
- Sites where antisocial behaviour occurs at night
- Sites that are considered unsafe to survey for any other reason
- Very built up areas with no green space
- Very open habitat with little or no cover, such as hedgerows, for the smaller bat species

Please note that a worked example survey of a 10km square, with completed Record Sheets, is given in APPENDIX.

SURVEYING

The site survey method is the same for re-surveys of BATLAS 2010 Sites and for the New BATLAS 2020 Sites. Please note that some 5km quadrants may have no safe accessible survey sites (e.g. in mountainous or coastal areas), you are not expected to attempt to survey in these areas. The online recording form has options for marking quadrants that are unsafe/inaccessible.

1. Please survey for **a maximum of 10 minutes per site or until you detect all four target species**, whichever comes sooner. If you detect all four target species earlier you do not need to stay for the full 10 minutes and **you do not need to visit a second site** (the quadrant is finished). Also, you need not wait to confirm Daubenton's Bat where there is *no watercourse* at the site.
2. Please note which species you record on your Recording Sheet.
3. Complete the survey in both sites within each 5km² quadrant.
4. Please complete your surveys between 1st May 2017 and 15th September 2017, preferably on nights with the following conditions:
 - Still to relatively calm or light breezes/winds
 - Dry to light rain
 - Relatively warm temperatures >8°C.
5. You can survey at any time of the night between approximately 40 minutes after sunset and 30 minutes before sunrise.

RECORDING THE DATA

1. Please record your data on the supplied Record Sheet/Spreadsheet (see Record Sheet in APPENDIX, the coordinator will also have sent an excel spreadsheet version).
2. Please use one Record Sheet per 5km quadrant within your assigned 10km square(s). Remember to note the 5km quadrant as NW, NE, SE or SW in the Record Sheet.
3. Please label your Sites "1" & "2" within each 5km quadrant according to the order that you survey them, previous BATLAS 2010 sites have already been assigned a number.
4. Note all species of bat at your site in the relevant column of the Record Sheet i.e. Site 1 or Site 2.
5. Time, date, temperature, weather conditions (cloud cover, precipitation and wind), location and GPS coordinates (Irish Grid Reference) for the survey sites are also required. Surveyors note whether the site was a previous BATLAS 2010 site, and whether watercourses, lighting, or hedgerows are present at a site (tick if yes).
6. Please record additional data on Lighting Type (White/Yellow/Orange) and Hedgerow Type (Small/Medium/Large) where relevant. There is guidance on Lighting and Hedgerow Types in the

following sections. Habitat classifications at each survey site are recorded at the intermediate level of detail as per Fossitt (2000).

ENVIRONMENTAL DATA: RECORDING HEDGEROW CATEGORIES

Where hedgerows/treelines occur within 100m of where you are surveying, please record the hedgerow type according to the categories below. Note that where there are areas, or relatively wide strips of scrub or woodland, rather than obvious linear hedgerows or treelines, you do not count them as a hedgerow. Note scrub or woodland in the habitat classification section of your Record Sheet in this case. If two or more hedgerows are nearby, **please record characteristics for the hedge where the bats were recorded nearest to, or that is the most dominant in terms of suitable habitat for bats.**

1. Small Hedgerow ("SH" in Record Sheet)

Cut hedgerows less than approximately 1.5 m high where there are no, or very few, protruding bushes or trees. These type of hedgerows would provide little shelter to bats.



2. Medium Hedgerow ("MH" in Record Sheet)

Hedgerows which are approximately 1.5 - 3 m in height.



3. Sparse Treeline Hedgerow ("ST" in Record Sheet)

Cut hedgerow with trees, the canopies of which, at least for the most part, do not touch. The hedgerow itself may be cut low or medium.



4. **Dense Treeline Hedgerow (DT in Record Sheet)**

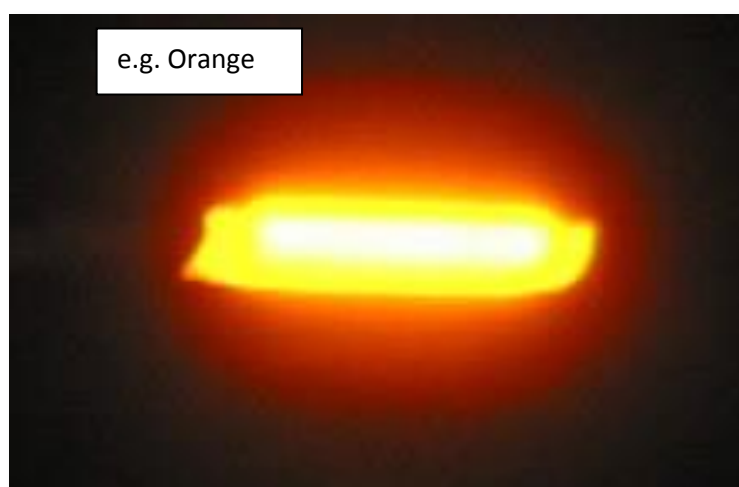
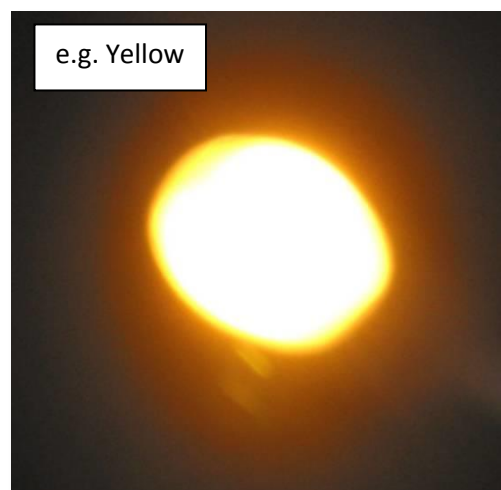
Large uncut hedgerows or treelines, dominated by mainly large tree or very tall scrub species (e.g. tall hawthorn, blackthorn or hazel), where the canopies are mostly touching.



ENVIRONMENTAL DATA: RECORDING LIGHTING CATEGORIES

Please record whether there is artificial lighting e.g. street lighting within 100 m of your survey sites. If this applies, please also note whether there is artificial lighting where bats are flying. Please categorise the lighting type as White, Yellow, or Orange using the following guidance. Some of you may be familiar with Lighting Types from Bat Conservation Ireland's annual Car-based Bat Monitoring Scheme.

- **White Light:** Floodlights are usually white for example.
- **Yellow Light:** For example almost all motorway lights emit 'yellow'. Note that streetlights described as Yellow sometimes have a pinkish tinge.
- **Orange Light:** Older streetlights often emit a bright/deep orange light



Examples of Lighting Types (White, Yellow, Orange)

ENVIRONMENTAL DATA: RECORDING WATERWAY CATEGORIES & DETAILS

Please record the following details in relation to the waterway present at your BATLAS 2020 site:

- If it is a linear waterway (e.g. river, canal, stream) please estimate the width in meters in the ENVIRONMENTAL DATA table.
- If it is a waterbody such as pond or lake, please note this by marking the relevant box in the HABITAT table.

RETURNING DATA

To submit your data please visit <http://www.batconservationireland.org/what-we-do/monitoring-distribution-projects/batlas/survey-form>. There is an online step-wise form to record all the information from your survey. If the submission has been successful you will receive a message telling you that the results have gone through OK.

GETTING HELP

If you have any queries please email the BATLAS 2020 Pilot Project Co-ordinator, who will be more than happy to help (batlas@batconservationireland.org, ++00447855098642). Feel free to send a text to say that you would like to have a chat about any aspect of the BATLAS 2020 surveys, and he will give you a ring.

The deadline for completion of surveys is **15 September 2017**.
We would appreciate your submissions before **1 November 2017**.

**Thanks very much for your participation, we very much value
your work on this national distribution survey.**



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IRELAND

APPENDIX A: EXAMPLE SURVEY OF A 10KM SQUARE

Please refer to the map, and example Record Sheets. One Record Sheet per 5km quadrant.

Quadrant SE

I started in the SE 5km quadrant (but you can survey the quadrants in any order).

Firstly I selected a new BATLAS 2020 site just NE of the BATLAS 2010 site. Survey this and recorded all four target species. I then headed to the BATLAS 2010 site. As it was a good BATLAS 2010 Sites with an easy to find point, I survey this. All 4 target species were recorded within 10 minutes so I move into SW following the main road.

Moved onto the next quadrant, because two sites within a quadrant, including BATLAS 2010 Sites, is the maximum required.

Quadrant SW

Checking the map for a potential good site (since there no BATLAS 2010 sites, I could pick a brand new BATLAS 2020 sites myself). I went to the first river crossing where I only recorded SP so I moved on. There were two possible bridges but the second one had a safer parking area so this one was chosen. I stayed here for 10 minutes and detected all 4 species.

Quadrant NW

Following the main road north I moved to the NW 5km quadrant.

Site 1. Again there were no BATLAS 2010 sites, so picked an accessible site with good bat habitat. I stopped at the first bridge and spent ten minutes. In that time I only detected 3 species: SP, CP and Leis. So I needed to pick a second site to see if I could confirm if Daubenton's bats were present in the 5km quadrant.

Site 2. Picked a New Site to try to detect missing species. Two species detected with Daubs confirmed.

Quadrant NE

NE 5km quadrant. There were two BATLAS 2010 sites here but one of them did not have good accessible parking area so this one was skipped.

Site 1. BATLAS 2010 site. Recorded only 2 bat species in the ten minutes.

Site 2. Picked a New Site to try to detect missing species Leisler's and Daubenton's - chose a safe accessible location with good bat habitat. Recorded all four species here.

Bat species codes marked on map above for illustration: CP: Common pipistrelle, SP: Soprano pipistrelle, Leis: Leisler's bat, Daub: Daubenton's bat)

