

The Natterer

Spring/Summer 2006



Sculpture title: Chiroptera
Vespertilionidae.

By: Nina Tanis.
(Bat exhibit in Fota Wildlife Park, Cork.)

Artist note on exhibit: This piece exists to reveal the unseen; it stands as a reminder that not seeing doesn't negate the existence of the unseen. The unseen often go unprotected and when we destroy natural habitats we often create an imbalance with that which we do not see or wish to ignore out of convenience or ego. The installation is an exaggeration in the creatures' scale, formation, and location in order to make this often unseen seen. For example, these simulacra are 4 times actual size. The materials used are partly fragile and partly durable; how this piece holds up to the environment throughout the exhibition is unknown which mirrors that of the 'real thing'. The lime tree was chosen as a site due to the 'witch's nest' growth on the lower tree trunk which provides protection to those unseen and whose nickname reflects the kind of unfounded myths that surround both subjects and site.



Bat Conservation Ireland Annual General Meeting

To be held in Petersburg Outdoor Education Centre, Clonbur, County Galway on Sunday 28th May, 1 p.m. All members are invited to A.G.M.

Directions: Clonbur is located on the northern shores of Lough Corrib. If travelling from Galway city, follow the N84 to Headford, R224 to Cross then R346 to Cong/Clonbur. From Castlebar, take the N84 to Ballinarobe, then R334/R345 to Cong/Clonbur. Take a right turn in Clonbur, travel for ½ km, take right turn at set of estate pillars.

Bat species of IRELAND



Bat Conservation Ireland Membership renewal

It is that time of the year again when Bat Conservation Ireland are seeking your continued support towards the conservation of bats and their habitats in Ireland.

Please renew your membership and receive this new A3 size Bat species of Ireland poster sponsored by Conservation Volunteers Ireland Vodafone Environmental Fund with photographs by Mr. Frank Greenaway.

Name: _____

Address: _____

Email: _____ Telephone no.: _____

Membership: Individual (€10) Family (€15)

Please return membership fee to: Dr Caroline Shiel, Membership Secretary, Edenville, Kinlough, County Leitrim. With cheque/postal order made payable to Bat Conservation Ireland.



The Natterer, Autumn/Winter Edition 2006 – if you are interested in submitting an article or as a member, you wish to read material on particular topics, please send an email with details to tinaaughney@eircom.net. Articles to be submitted by September 1st 2006.

Pipistrelles Top the Poll with the Car-Based Monitoring Scheme *by Dr Niamh Roche*

The Irish Car-Based Bat Monitoring Scheme was started in 2003 by The Heritage Council. In that year, The Heritage Council asked the UK's Bat Conservation Trust (BCT) to devise a scheme for monitoring bats in Ireland. This was done to help fulfill some of Ireland's obligations under the EUROBATS Agreement which requires signatory states to carry out monitoring of their bat species. In 2003, Colin Catto and Jon Russ of the BCT, who devised the method, were conscious of the fact that there are relatively few trained bat workers available to carry out survey work in Ireland and that large areas would have to be covered by the few people who were available. Also, they wanted to devise a method that could be carried out by people with little knowledge of bats so that new volunteers could be recruited. So, they came up with a method of monitoring bats from cars. Since 2004, Bat Conservation Ireland has been administering the monitoring scheme and it has been funded by The Heritage Council and The National Parks and Wildlife Service (NPWS).

The survey is carried out in July and August. Surveyors have a bat detector clamped to the passenger window of a car.



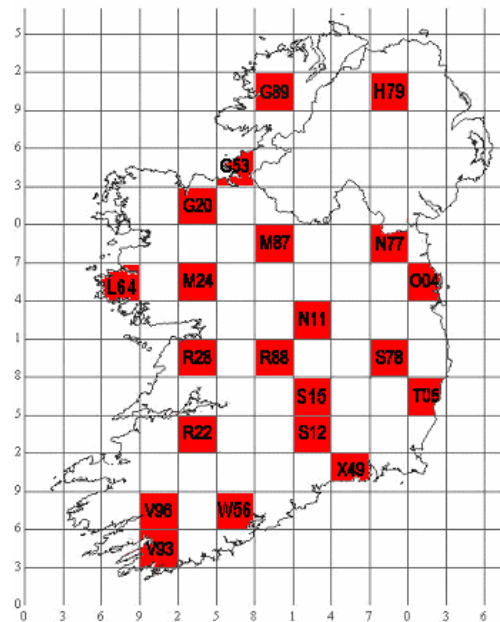
A bat detector clamped to a car passenger window. The lead links the bat detector to a minidisc recorder.

They drive at 15mph (24kmph) along a road and while driving they record from the detector to a minidisc. A Time Expansion bat detector is used. This detector picks up a wide range of ultrasound (ultrasounds are sounds in frequencies too high for a human to hear) for a split second and then plays the sound back at a slower speed. In much the same manner as a turntable played at a slow

speed results in a female singer sounding like a deep-voiced man, a time expansion bat detector playing ultrasound back at a slow speed means that high-pitched inaudible sounds become audible. In fact, these sounds can be downloaded to computer and using software called Bat Sound the sonograms (plots of frequency over time) can be used to identify the bats, often to species level. The surveyors don't do this sonogram identification in the field – they send their minidisks to Bat Conservation Ireland and we analyse it for them.

Each surveyor maps a route in a specific 30 x 30 km square and each route includes 20, 1.6km (1 mile) transects. Each transect is driven at 15mph and so we end up with a minidisc with 20 tracks – one each per transect.

We have been steadily increasing the number of survey squares each year and to date we have 21 survey squares around the country including Northern Ireland. The Environment and Heritage Service of Northern Ireland will be funding three squares for the North in 2006 so it will truly be a whole island monitoring scheme from this year. Surveyors have included volunteers (members of Bat Conservation Ireland), NPWS research and field staff, Heritage Council staff and students of Queens University Belfast.



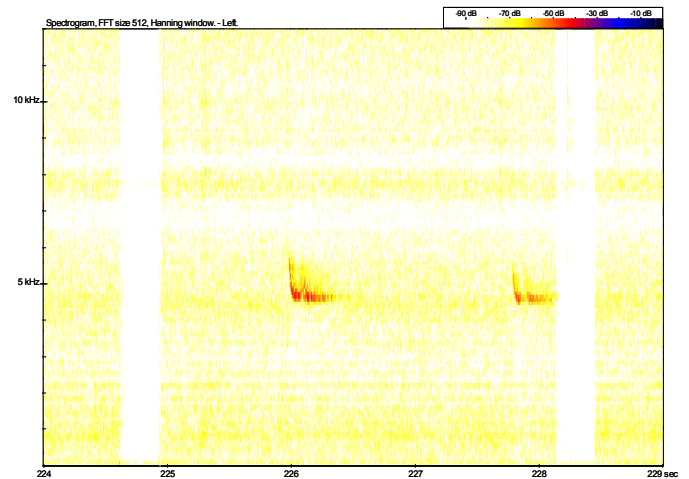
Map of Ireland showing 30 x 30km squares where routes with 20 transects have been mapped and surveys carried out (2003-2005).

The results so far have been very encouraging. We have recorded more than 4000 bat encounters - a bat encounter refers to a series of bat echolocation calls. About half of these have been the common pipistrelle. This species has been particularly abundant in squares in the midlands, east and south of the country. The soprano pipistrelle has accounted for about 20% of all bat encounters and this species tends to be more active in the south-west, west and north-west of the country. It was the only bat species picked up in the survey square in Connemara in 2005. The soprano pipistrelle may actually be more abundant than the common pipistrelle in these parts of the country or it may be that the types of habitats that the soprano pipistrelle favours (rivers, streams and lakes) are more often located beside roads in the west than in other parts of the country. The Leisler's bat is also relatively frequently encountered in the survey. It is found all over the country (except for the square in Connemara, where it was absent in 2005). Other species are sometimes encountered too. *Myotis* bats account for about 1% of all calls recorded. We don't, however, distinguish between the different *Myotis* species (whiskered, Natterer's, Brandt's or Daubenton's) using this technique. Long-eared bats have been recorded on three occasions. The *Nathusius* pipistrelle was recorded once in a square in the north-east (Louth/Monaghan) in 2005. This species has, so far, only been confirmed breeding in Northern Ireland but it has been recorded by bat detectors as far south as Killarney.

Statistical analysis has shown that the car-based bat monitoring scheme is a good technique for picking up

declines, should these occur, in three species: the common pipistrelle, the soprano pipistrelle and Leisler's bat. Other species are not picked up in high enough numbers to actually monitor population trends.

However, Ireland still needs to monitor all bat species so Bat Conservation Ireland, funded by the NPWS, EHS and Waterways Ireland, is starting a pilot scheme in 2006 to monitor another species – Daubenton's bat (also known as the water bat).



A plot of frequency over time – sonogram – showing an echolocation call of a common pipistrelle, the most commonly encountered bat on the car-based bat monitoring scheme.

Yearly reports are available in pdf. form on www.batconservationireland.org and on the NPWS website as Wildlife Manuals (also in pdf. form).



Batline: 046 9242882
 batline@eircom.net
www.batconservationireland.org

The Natterer, Autumn/Winter Edition 2006
 Feature Article: Cork County Bat Group Bat Box Project

WICKLOW MOUNTAINS NATIONAL PARK SUMMER BAT WALKS 2006



Education Centre 0404-45656
 Information Office 0404-45425

Bat Walks start at dusk at the Information Office, Upper Lake, Glendalough, on the following Thursdays:
 June 15th – 9.40pm July 6th – 9.40pm July 20th – 9.25pm August 17th – 8.30pm

Do you have any dead bats (dried or frozen)? If so, BCIreland will be collecting such bats at the AGM (Sunday 28th May 2006) for passive EVLB testing programme. Collection and storage facilities will be available as well as appropriate labels. Thank you for your cooperation.



All events are listed on the Events Page on our website www.batconservationireland.org. Please keep an eye on the Events Page for updates.



BAT CONSERVATION IRELAND EVENT GUIDE 2006

Biodiversity Day: 22nd May 2006

- Sunday 21st May* Bat Walk in Coole Park, Gort, County Galway. Meet in the courtyard near Visitor Centre. Please ring 091 794435 (Galway Bat Group) for details.
- Monday 22nd May* Bat Talk/Walk/Survey of Mount Temple Comprehensive, Malahide Road, Fairview, Dublin. Members are invited to participate with the survey of the school grounds after bat talk. Results will be included in the schools environmental plan. Bat detectors will be provided on the night. A chance to practice bat detector identification skills. Ring 046 9242882 for details.
- Bat Walk and Talk, The Tennis Pavillion, Bushy Park, Rathfarnham, Dublin. Starts at 8.30 pm
- Tuesday 23rd May* Bat Walk & Talk, Birch Court, Main Street, Ballybay, Co. Monaghan. Walk organized in association with Monghan Co. Co. Starts at 8.30 p.m.
- Saturday 27th May* Dromore Nature Reserve celebrating Biodiversity Day with BC Ireland Information stand followed by bat walk guided by Dr Sinead Biggane. For more details check www.clarecoco.ie.
- Saturday 27th May* Bog of Allen Bat celebrates Biodiversity Day with a Box Workshop and Information stand among many events.

BC Ireland Bat Detector Workshop

- 26th – 28th May* Petersburg Outdoor Centre, Clonbur, County Galway please check website for more details www.batconservationireland.org

General Bat Walks and Talks

- Tuesday 6th June* Teach Reathnaich Cultural and Heritage Centre, Collon, Co. Meath. Ring 041 9819022

Belvedere House and Gardens & BC Ireland Summer Events

- Saturday 6th May* Bat Box Building Workshop followed by Bat Talk & Walk. Starts at 7.00 p.m.
- Saturday 19th August* Bat Box Building Workshop followed by Bat Talk & Walk. Starts at 6.30 p.m.
- Saturday 2nd September* Bat Talk & Walk. Starts at 7.00 p.m.

BC Ireland Information Stands – members are welcome to help out with these events

- Wednesday 21st June* Agriculture and Food 2006 Environmental Education Exhibit, Kildalton College, Kilkenny. BC Ireland will be holding an information stand on this date.
- Saturday 25th June* County Wicklow Heritage Day, Bat workshop and oral presentation by Enda Mullen followed by evening bat walk.

European Bat Night 26th August 2006

- Please keep an eye on our Events Page www.batconservationireland.org for updates to events for this date
- Saturday 26th August* Bat talk and walk, Lough Ramor, Virginia, County Cavan. Ring 086 4049468 for details.

Heritage Week 26th August to 3rd September

- Please keep an eye on our Events Page www.batconservationireland.org for updates to events for this week.
- Sunday 27th August* Bat walk along the Tow paths of the River Boyne, Battle of the Boyne, Oldbridge Estate.
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Some good news.....

Two positive initiatives have been recently launched which will directly impact on the conservation of bats in this country. These are outlined below.

National Biological Records Centre Launched

The planned *National Biological Records Centre* was launched on 5th and 6th of May last in the *Waterford Institute of Technology* which will become its home. The conference launching the centre was billed as a round table meeting to emphasize the inclusiveness of the enterprise to those invited to the launch. Delegates present included representatives of various NGOs, government departments and other interested parties.

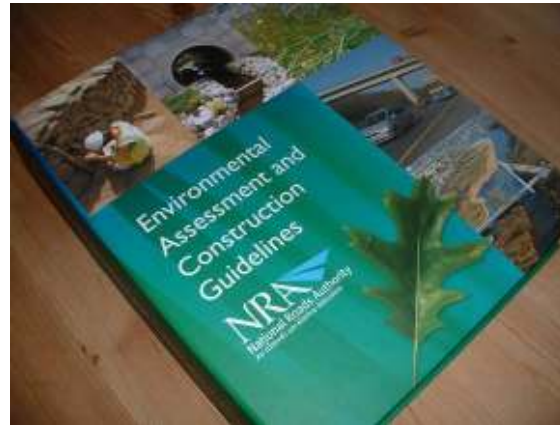
The presentations were by UK, Dutch and Luxemburg institutions showing their databases in operation with more local presentations included by the *Irish Whale and Dolphin Group* and *BirdWatch Ireland* among others. The feedback from the gathered representatives during the event was very positive and the centre has drafted a five-year programme which is achievable. Some changes to this initial draft will result from the discussion held during the event. The staffing of the centre has yet to be fully finalized but it should be operational in the coming months.

Much information on wildlife and habitats is held by various NGOs and other sources in the form of hard copy and digital records and this should be shared with the NBRC for the good of nature conservation in Ireland. *Bat Conservation Ireland* welcomes the launch of the NBRC and will promote and cooperate by sharing our national bat records with the centre. Congratulations should be given to Liam Lysaght, Wildlife Officer of The Heritage Council, for his hard work and tenacity in bringing the NBRC to fruition.

National Roads Authority launches its Environmental Assessment and Construction Guidelines

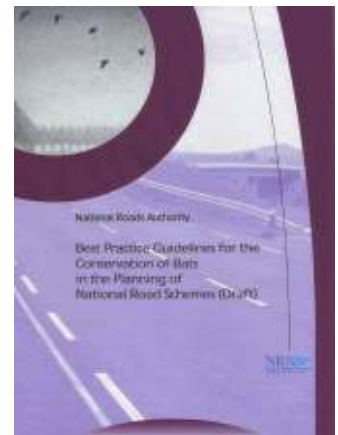
The *National Roads Authority Environmental Assessment and Construction Guidelines* were launched at a one-day conference held at Croke Park on the 30th of March last. These Guidelines were drafted by specialists in their respective fields and include sections covering Environmental Impact Assessment, noise, air quality, landscaping, architecture, archaeology and the conservation of various wildlife species and habitats. *Bat Conservation Ireland* welcomes the publication of these Guidelines as a major, positive initiative by the NRA. The documents draw together many aspects of both built and natural heritage and outline their assessment during the pre-route selection, route selection, construction and post-construction phases of

road building. Individual habitats, species, architecture and archaeology are assessed during the route planning stages of constraint study, route corridor selection, Environmental Impact Assessment and covers mitigation and monitoring during the construction phase. The methods are based on best European practice.



The Guidelines include two sections on bats: *Best practice guidelines for the conservation of bats in the planning of national road schemes* and *Best practice guidelines for the treatment of bats during the construction of national road schemes*.

These sections were drafted with the input of BC Ireland and include mitigation to offset disturbance to bats by including methods such as flyovers and underpasses during construction to avoid road casualties and disruption of commuting routes.



Dr. Vincent O'Malley, Environmental Manager of the NRA, persevered with a very difficult task in drafting the Guidelines and the final documents are very welcome.

All Ireland Daubenton's Bat Waterways Survey

Introducing a Pilot Monitoring Protocol in August 2006

A funded partnership: National Parks and Wildlife Service (Department of the Environment, Heritage and Local Government, Republic of Ireland), Environment and Heritage Service (Department of the Environment, Northern Ireland).



Bats constitute a large portion of the mammalian biodiversity in Ireland. Ten species of bat are known to occur in Ireland and form almost one third of Ireland's land mammal fauna. Bats are a species rich group widely distributed throughout the range of habitat types in the Irish landscape. Due to their reliance on insect populations, specialist feeding behaviour and habitat requirements, they are considered as valuable environmental indicators of the wider countryside (Walsh *et al.*, 2001).

Irish bats, including the Daubenton's bat, are protected under Irish and EU legislation. Under the Wildlife Act (1976) and Wildlife (Amendment) Act 2000 it is an offence to intentionally harm a bat or disturb its resting place. The EU Habitats Directive (92/43/EEC) lists all Irish bats species in Annex IV while the lesser horseshoe bat *Rhinolophus hipposideros* is listed in Annex II.

Monitoring protocols for bat populations is essential due to the paucity of information on the present distribution of many of Ireland's resident bat species. Without such protocols, it is difficult to compile any comprehensive review of the current status of bat populations. Monitoring trends of bat populations also addresses obligations under the Habitats Directive and the EUROBATS Agreement.

The characteristic foraging style of Daubenton's bats makes it relatively easy to identify the species in the field and thus a suitable candidate for large scale volunteer-based surveys. This species is widely documented to actively select waterways as its preferred foraging habitat and is also known to use stable (night-to-night) foraging sites in the summer.

Daubenton's bat belongs to the Family Vespertilionidae and has a widespread distribution along a narrow band

across Europe and Asia (Altringham, 2003). It is widely distributed in Ireland.

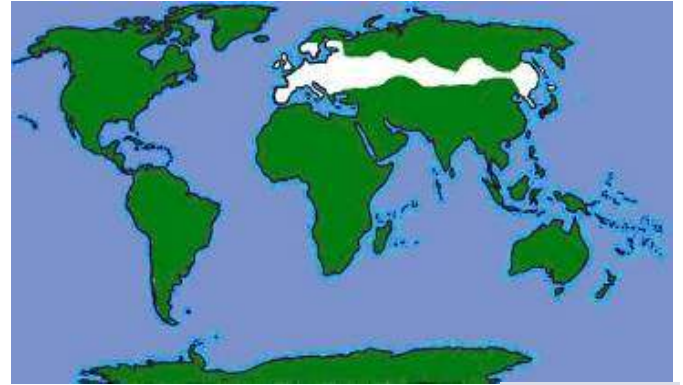


Figure 1: Distribution of the Daubenton's bat © University of Bristol

Factors affecting the population of Daubenton's bat include a reduction in water quality and loss of riparian vegetation. Factors that reduce roosts, both summer and hibernation, will also impact on this species (Walsh *et al.*, 2001). In Ireland, bridge maintenance involving the spraying of liquid concrete into crevices under the arches of bridges is a major contributor to roost destruction (Shiel, 1999).

Daubenton's bat is often called the water bat due to its preference for hunting close to water (Fairley, 2001). Daubenton's bat is easy to see when foraging because it opportunistically feeds close to water. It forages typically within 30cm of the surface. Here it either trawls for insects from the surface of the water by gaffing them with its large feet or the tail membrane or takes them directly out of the air (aerial hawking) (Jones and Rayner, 1988). Daubenton's bats can be observed flying continuously back and forth along a regular flight path.



© University of Bristol Figure 2: Typical flight pattern

Exploitation of insect prey populations and orientation during the darkened hours means that bats rely on

vocalisation or echolocation when commuting and foraging. Bats generate ultrasounds in the larynx and emit these sounds either through the mouth or the nostril. These high frequency sounds are returned as echoes, from which the bat builds a sound picture of its immediate surroundings (Elliott, 1998). Echolocation calls are comprised of two broad components: Constant Frequency (CF: single note of long duration) and Frequency Modulation (FM: sweeping down over a range of frequencies). The characteristic echolocation call of a particular species is often defined by its use of CF and FM components. Daubenton's bats tend to use FM echolocation pulses ranging in a downward sweep on average from 79 to 33 kHz in a typical foraging habitat, a waterway.

NPWS, EHS and Bat Conservation Ireland is proposing to pilot the Daubenton's Bat Waterway Survey based on the BCT (UK) methodology in the Republic of Ireland and Northern Ireland in August 2006. Sampling locations for an All Ireland Daubenton's Bat Waterway Survey will correspond with sites already monitored by the EPA/EHS water quality programmes. This would provide additional information for data set analysis.

The survey methodology relies on the use of heterodyne bat detectors. Daubenton's bats echolocation call on a heterodyne bat detector can be described as a rapid series of clicks, often likened to the sound of a machine gun. The pulse repetition rate is very fast and very regular and loudest at 45kHz.

Sampling the activity of Daubenton's bats along waterways using a heterodyne bat detector is relatively straight forward. The echolocation call is loudest when the detector is tuned to 45kHz. However to distinguish from foraging pipistrelle bats it is recommended to tune the detector to 35kHz. At this frequency, the pipistrelle bat echolocation calls lose much of its tonal qualities but the dry 'clicks' characteristic of Daubenton's bats are still clearly audible.

A 'bat pass' is a sequence of echolocation calls registered indicating a bat in transit. The 'bat pass' is the unit generally measured when surveying for bats. The characteristic nature of Daubenton's bats flying along a regular 'beat' over the surface of water makes it an easy species to record bat passes.

What will volunteers be required to do?

Identifying bats on field surveys with heterodyne bat detectors requires some training and practice. Therefore volunteers will be provided with training prior to surveying. A volunteer pack will provide potential volunteers with information on bats in Ireland, surveying techniques, bat detector usage and model descriptions,

importance of monitoring protocols and potential use of information collated from such monitoring protocols.

Volunteers will then follow the prescribed methodology:

- Volunteers will be assigned a random 1km of waterway (existing EPA/EHS water quality monitoring site) that is within 10km of the surveyor's home address.
- Surveyors will undertake a day visit (with landowner's permission) to assess the site for safety. Ten points approximately 100m apart, are marked out along a 1km stretch.
- The surveyors will then revisit the site on two evenings in August. At each of the ten points, the surveyor records Daubenton's bat activity for four minutes with a heterodyne bat detector and torchlight.
- Bat passes are either identified as Daubenton's bat or 'Unsure' Daubenton's bat. Daubenton's bat passes are identified only if the bat is heard and seen skimming the water surface. Bat passes that are heard and sound like Daubenton's but not seen skimming the water maybe another species. Therefore these heard but not seen bats are recorded as 'Unsure' Daubenton's bat passes.
- Volunteers will then fill out Survey Results Sheets and return, along with a map of their 1km transects, to BCIreland for processing.
- Volunteers will receive a report on how their participation contributed to this All Ireland monitoring protocol.

Training courses will be organized throughout Ireland which you will be invited to join in. You do not need to have any prior experience in bat detection to participate in this scheme. A heterodyne bat detector is required to undertake this survey and a limited number of detectors will be available through Bat Conservation Ireland for use for this survey. However, if you are interested in learning more about bats in the field, a bat detector is an essential field tool.

Please fill out the enclosed postcard and return to BCIreland if you are interested in participating in monitoring programme.

For further details, please contact the Batline 046 9242882 or email tinaaughney@eircom.net

References

- Altringham, J. D. (2003) *British Bats*. Harper Collins Publishers.
- Elliott, P. (1998) Ultrasonic bat detectors: a beginners' guide. *Journal of Biological Education* 32 (1).
- Fairley, J. (2001) *A basket of weasels*. Belfast

Jones, G. and Rayner, J. M. V. (1988) Flight performance, foraging tactics and echolocation in free-living Daubenton's bats *Myotis daubentoni* (Chiroptera: Vespertilionidae). *Journal of Zoology* 215: 113-132.

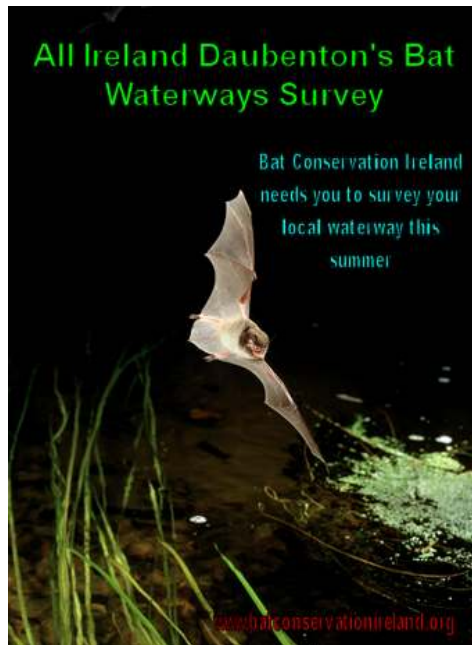
Shiel, C. (1999) *Bridge usage by bats in County Leitrim and County Sligo*. The Heritage Council, Kilkenny.

Walsh, A., Catto, C., Hutson, T., Racey, P., Richardson, P. and Langton, S. (2001) *The UK's National Bat Monitoring Programme, Final Report 2001*. Bat Conservation Trust UK.

It is a medium-sized bat with a mass of 7-15g, a wingspan of 240-275mm and a forearm length of 33-42mm. In general, it has brown dorsal fur with pale buff ventral fur. The ears are relatively small with a short blunt tragus. Characteristic features include a long calcar (the cartilage projection from the foot to the tail along the edge of the tail membrane) and large feet (Altringham, 2003).



Photograph © Conor Kelleher



Photograph © Frank Greenaway

Are YOU interested in volunteering?

VOLUNTEERS WANTED

Please fill out the enclosed postcard and return to **Bat Conservation Ireland**

TRAINING WILL BE PROVIDED



Bat Conservation Ireland successfully received funding from CVI Vodafone Environmental Fund to purchase photographs of the ten Irish bat species from Mr. Frank Greenaway, a wildlife photographer.

The additional funding awarded will be used to print A3 size prints for distribution to BCireland members with extra copies available for sale. A large number of A4 copies will also be printed and distributed to libraries, primary schools, BCireland events, free of charge, to increase the awareness of bats in Ireland. This is part of BCireland's on-going Educational Programme.

We would like to take this opportunity to thank Conservation Volunteers and Vodafone for their continued support for BCireland's Educational Programme. BCireland will receive their award on 26th May, 2006.



The Natterer

Spring/Summer 2006

Batline: 00353 46 9242882 batline@eircom.net www.batconservationireland.org