

Guide to Running a BioBlitz 2.0

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BioBlitz



Bristol Natural
History Consortium



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About this guide

This guide has been designed to support the running of BioBlitzes and similar wildlife events in the UK. It is aimed at those running a large-scale event but a BioBlitz doesn't have to be big to be successful. If you would like to hold a smaller event, just select the ideas that are relevant to you.

This guide has been written by a partnership of organisations that have led the BioBlitz concept in the UK, with contributions from BioBlitz organisers from across the country. It was originally written in 2010 as part of the Open Air Laboratories (OPAL) project www.opalexplornature.org, supported by the Big Lottery Fund, but has since been significantly updated and supplemented with case studies and examples to bring our suggestions to life.

Use of this guide

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About the authors

Natural History Museum

Lucy Robinson and **John Tweddle** authored the first version of the BioBlitz guide in 2010 during their time working on the OPAL project. Together they have organised a number of BioBlitzes and have attended many others. Their first BioBlitz was the Wembury BioBlitz on the Devon coast in 2009, which was filmed for the BBC documentary Museum of Life. This rural event contrasted markedly with the Alexandra Palace Park BioBlitz they organised in central London in 2010 which catered for over 8000 participants. Lucy and John both work in the Angela Marmont Centre for UK Biodiversity at the Natural History Museum London.

Bristol Natural History Consortium

Matt Postles works at Bristol Natural History Consortium (BNHC), a Bristol-based but nationally active charity that engages people with the natural world through collaborative action. BNHC ran its first BioBlitz in 2009 at Ashton Court in Bristol and have since been working with partners across the UK to promote and develop the concept, coordinating the National BioBlitz Network. Matt took over the lead of the BioBlitz strand at BNHC in 2011 and has been involved in running and supporting several events as well as raising the public profile of BioBlitz nationally.

Stockholm Environment Institute (York)

Sarah West is a researcher at the Stockholm Environment Institute (York), an international research organisation focusing on environmental and development issues. Sarah organised several BioBlitzes and attended many more whilst working on the OPAL project, and drew together a number of lessons learned from her experiences which are featured in this guide. Sarah is an active member of the Yorkshire Naturalists' Union.

Marine Biological Association of the United Kingdom

Jack Sewell works at the Marine Biological Association of the United Kingdom (MBA). He has been involved in education and outreach including running citizen science and marine life recording projects for almost 10 years. He co-led the first public, marine-based BioBlitz at Wembury in 2009 alongside the Natural History Museum and has led an annual Southwest BioBlitz since then with a range of partners. He has provided advice and guidance to support BioBlitz events nationally and internationally.



LUCY ROBINSON
l.robinson@nhm.ac.uk



JOHN TWEDDLE
j.tweddle@nhm.ac.uk



MATT POSTLES
matt@bnhc.org.uk



SARAH WEST
sarah.west@york.ac.uk



JACK SEWELL
jase@mba.ac.uk



'Bio' means 'life' and 'Blitz' means 'to do something quickly and intensively'. Together they make 'BioBlitz', a collaborative race against the clock to discover as many species of plants, animals and fungi as possible, within a set location, over a defined time period (usually 24 hours).

A BioBlitz usually comprises a group of scientists, students, naturalists and other members of the public working together - this mixture of wildlife experts and the wider public is key to the BioBlitz concept.

It is an informal and fun way to create a snapshot of the variety of life that can be found in an area. It provides an opportunity for participants to learn together and share their expertise and enthusiasm for nature. This is a great way of breaking down barriers to engagement with science and raising awareness of the role of biological recording. It also gives the public an opportunity to contribute to a genuine scientific survey.

A BioBlitz can be carried out anywhere there is wildlife, including urban and rural areas, inland or coastal locations, and upland and lowland settings. It is a very flexible concept: it's up to you how many people to invite, how big an area to explore and what activities to include.

First developed by Sam Droege in the USA in 1996, BioBlitzes are now held regularly in many countries and have been taking place in the UK since 2006. BNHC co-ordinate the National BioBlitz Network in the UK.

The name 'BioBlitz' has developed international recognition in the media as an exciting and fun way to get people exploring natural spaces and discovering wildlife. You don't need to use it if you don't like it, but you may gain extra media coverage if you do.

What is a BioBlitz?

Sweeping for invertebrates at Bristol BioBlitz



Getting Started

Will a BioBlitz meet your goals?

This is the first question that should be asked. From an organiser's perspective, the BioBlitz concept is very flexible and can be designed to fit your budget, aims and interests.

If planned carefully, it can be an effective way to spread your message to a wide audience, launch a product or partnership, recruit new members or simply showcase, explore and raise awareness of the diversity of life in a particular area. BioBlitz events are also a lot of fun. They work best if they have a defined, active outcome such as a particular target species or a 'grand total' to aim for, giving people a positive reason to get involved.

If your aim is to compile a full site inventory, then a BioBlitz probably won't be the most efficient way to do this, but it could kick-start the process and attract expertise.

Surveying beetles at the Mothecombe BioBlitz in Devon.



Identify your desired outcomes

At the outset, consider what outcomes you and any partner organisations are hoping for and design the event accordingly. It is important to evaluate the event to measure the extent to which your outcomes were achieved (see section 7: Evaluation).

Desired outcomes may include:

Individual outcomes

Often, a primary aim of a BioBlitz is to engage with individuals and influence their interaction with the natural world. Outcomes may include:

- Enjoyment, inspiration and creativity - participants have fun and are inspired to enjoy the natural world and contribute to its conservation
- Knowledge and understanding - participants develop an understanding of local wildlife and habitats and gain first-hand experience of how biological recording works
- Skills development - participants develop wildlife identification and biological recording skills alongside communication and teaching skills
- Attitudes and values - participants are more aware of wildlife and conservation in their local community
- Behaviour and progression - participants are encouraged to continue to record their wildlife sightings after the event

Environmental outcomes

Through recording the names and locations of species, BioBlitzes can generate biological records which can be passed on to Local Records Centres, national recording schemes and the National Biodiversity Network Gateway. The records can be used to help scientific research and government policy, as well as informing conservation practice, local planning and land management at a variety of scales.

Community outcomes

By engaging with local communities on their own 'patch', BioBlitz events can lower barriers to engagement with nature, particularly for 'hard to reach groups' such as young people, the elderly, disability groups, Black and Minority Ethnic groups and those living in areas of high deprivation.

If targeted well, BioBlitzes can bring together diverse groups of people from a community, which could contribute to improved community cohesion in the longer term. They can also help to give people a sense of belonging by encouraging people to participate in wildlife activities in their local area. They can help to build support for local conservation areas and may encourage the behaviour changes required for their effective protection.

Business/economic outcomes

BioBlitzes are often used to raise the profile of participating organisations. They can help groups to meet their charitable aims, and may generate financial support either directly through charity membership recruitment, donations and visitor spending, or indirectly through leveraging future public and corporate funding. By working as part of a consortium, smaller organisations can work with far larger numbers of people than their budgets would normally allow.

What resources do you have?

Whatever the scale, a BioBlitz will require resourcing. Staff and volunteers will be needed to plan, publicise and run the event, and you will require funding to cover running costs. How much of each is needed will depend on the scale of event you are aiming for and the materials you already have. Most existing wildlife-related outreach materials can be fitted into a BioBlitz. You may want to consider seeking sponsorship.

Investigate a partnership approach

A partnership approach is highly recommended when planning a BioBlitz. Teaming up with other organisations is an excellent way to share ideas and expertise, spread the workload and maximise publicity. An effective BioBlitz partnership will ideally include partners with local knowledge, species expertise and the ability to handle the species records collected. Local Records Centres, Wildlife Trusts, natural history societies, community groups, councils, laboratories, field centres and universities are all good starting points and it is vital to engage with local groups as early in the planning process as possible. Their environmental expertise will be necessary for a successful event not only on the day but also in selecting the most appropriate site, time of year and activities.



Planning checklist

Once you've decided a BioBlitz is for you, plan as far in advance as possible. The main tasks are listed below, with more detailed hints and tips for selected topics on the following pages.

Things to do as soon as possible:

- meet with groups and organisations who may be interested in contributing (including local naturalists), to scope ideas, support and requirements
- confirm your budget and seek any additional funding or sponsorship
- choose a site and secure permissions to access and survey
- check any conservation designations (for example SSSI) in the survey area that may limit the activities which can be undertaken
- set the date and duration
- start to plan the event structure and content
- check the National BioBlitz Network website for useful downloadable resources

In the six months leading up to the event:

LOGISTICS

- decide on the layout of the venue, including the design of Basecamp (see section 6)
- book any equipment you need to hire - marquee, generator, tables and chairs, tea urn etc.
- arrange any necessary licences (e.g. for vending, or surveying sensitive species and habitats)
- arrange site facilities – parking, catering, toilets
- obtain collecting permission from the landowner, and for protected sites contact the relevant statutory body

- arrange first aid cover
- arrange on-site security and marshalling (if required)
- write risk assessments and other policy documents (see section 9)

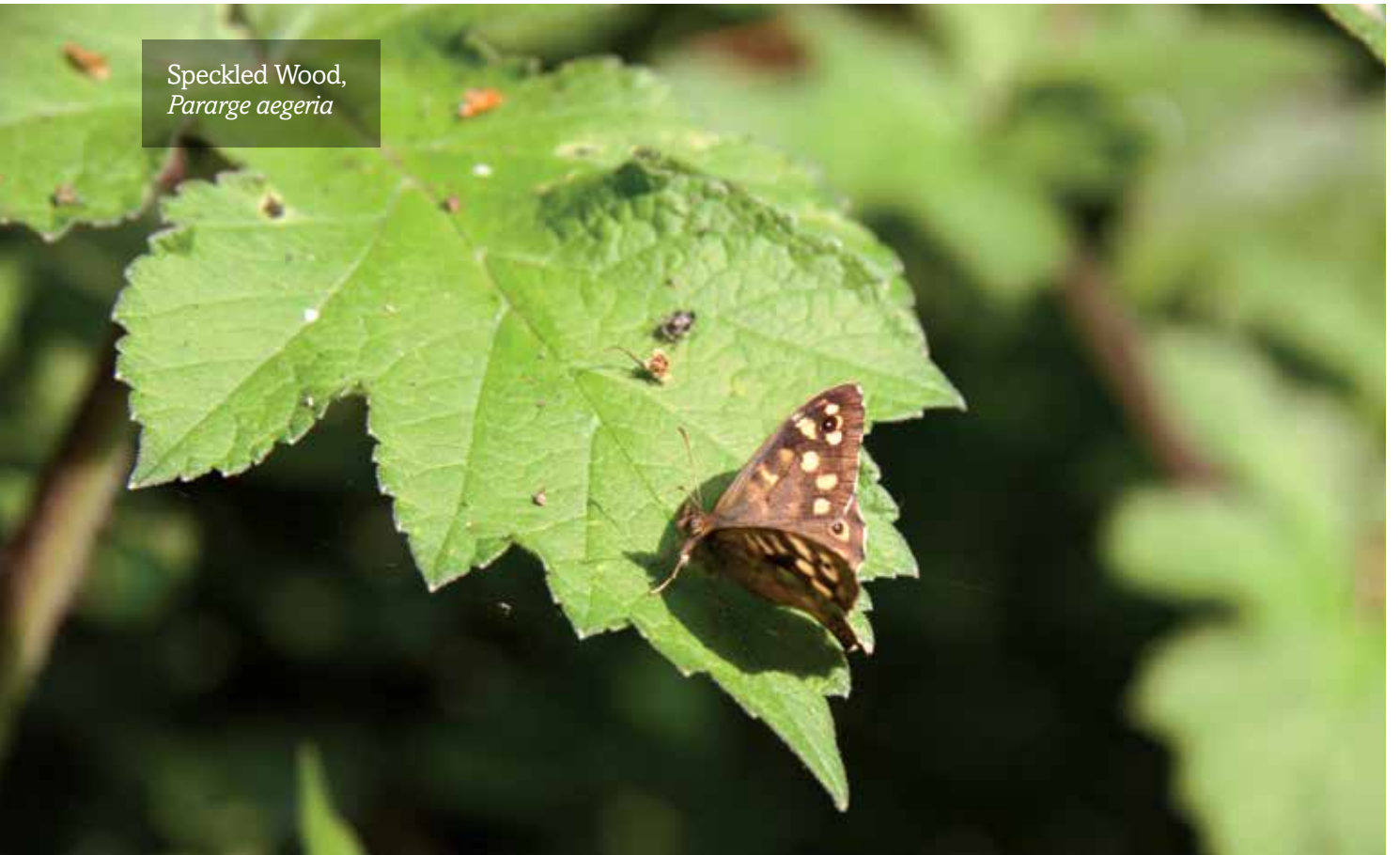
INVITATIONS AND ACTIVITIES

- invite naturalists and volunteers
- plan and develop all component BioBlitz activities (see section 11)
- prepare recording sheets and a records database
- plan timetabled activities
- prepare and circulate an information pack for staff and volunteers, including a copy of the recording form
- plan how you will evaluate the success of the event

PUBLICITY

- register your event with the National BioBlitz Network to get listed in the BioBlitz directory
- design and order any signs and banners
- design and print programmes for public attendees (if required)
- circulate publicity material and press release, and contact local community groups and tourist offices
- write web pages and set up blogs and other online media such as Facebook and Twitter

Speckled Wood,
Pararge aegeria



The weeks before:

- inform the local police and/or coastguard about your event
- re-confirm bookings for anything you are hiring
- check everything you need is prepared
- update staff and volunteers on their roles at the event (print a rota showing who is doing what and when), with information about key locations, event context and what to do in an emergency
- run a training or briefing session for key staff and volunteers
- carry out a final publicity push, which could include using social media, putting up posters in the local area and contacting local radio and television stations

During the event (and set up):

- co-ordinate delivery and set up of any hired equipment
- set up your site, including Basecamp and activities
- walk around the venue to check for any new risks (or exciting wildlife!)
- brief staff and volunteers and inspire enthusiasm in your team
- talk to the media and update websites and social media
- be active and dynamic, if something isn't working then change it
- evaluate the success of the day

After the event:

- clean up the site before leaving
- thank the landowner and everyone who helped
- collate the findings (including reminding participants to send records and photos after the event) and write an event report
- de-brief participants with species totals and other achievements
- write up your evaluation of the day and consider any lessons learned
- carry out any other follow-up activities
- share any reports or feedback with the **National BioBlitz Network**
- relax and recover!



The site will influence the overall feel of the event along with what is found, so choose carefully.

Public parks, local nature reserves and privately owned estates that are publicly accessible are all popular locations. Remember you will need to gain access permission for your chosen venue and, if you are planning a 24-hour event, will probably be on site overnight. In this case, you may need local overnight accommodation or camping facilities. Talk to your Local Records Centre or natural history societies before choosing a site. They may be able to suggest sites that are under-recorded or have interesting wildlife, which may be a strong incentive for naturalists to attend.

The site should:

- be safe, particularly after dark
- be easily accessible to your chosen audience, with good public transport links and ample parking
- be able to cope with your expected audience size without any negative impact on biodiversity
- contain the desired habitats and species groups
- contain appropriate facilities, including toilets and catering (an added cost if you need to arrange these separately)
- contain somewhere to site your Basecamp (Section 6)
- have a phone line or good mobile signal in case of emergency

Date, duration and timing:

- are there constraints on when your BioBlitz can be scheduled? Avoid clashing with other local or similar national events
- you can find wildlife at all times of year, but late spring and early summer are good for spotting a wide range of species, with day length and temperatures more favourable for outdoor activities. You are unlikely to find as many species if you hold your BioBlitz 'off season'
- if you are hoping to invite school groups, they may need the event to include a weekday during term time and during school hours
- many events run Friday to Saturday, with a focus on schools on Friday and a broader family audience on Saturday
- BioBlitzes traditionally run for 24 hours but you don't need to stick to this if another time period is more appropriate
- similarly, there is no fixed rule for the start time. For a public launch, start late morning to give people time to arrive
- for coastal events, try to coincide with a particularly low tide and schedule activities to fit in with tide times

Choosing a site, date and duration



Recruiting volunteers and specialists

Recruiting the right mix of wildlife specialists, staff and volunteers to co-ordinate public activities is vital.

There are no set rules on how many scientists and naturalists should take part; the more the merrier. Try to recruit a diverse breadth of expertise as this will give you a wider range of potential activities and boost your final species count. Many naturalists will be happy to bring their own equipment, just remember to ask them. Engaged early, volunteers can also help with promotion and obtaining funding and resources for the event.

Find out in advance which roles volunteers and specialists are most comfortable with. Some will just want to get on with recording, others will also be happy to run a public-facing activity.

Where to recruit scientific experts and volunteers

Spread the word through your contact network. Local biodiversity-related websites and email newsgroups can be particularly effective in reaching naturalists. Here are some more ideas of organisations to contact:

- Wildlife Trusts and Local Records Centres
- natural history societies and recording schemes (see www.nhm.ac.uk/naturegroups)
- local community/friends of groups with an interest in the site
- town councils
- local museums
- universities and other academic institutions (contact the student union or careers department about volunteers)
- Volunteering England (for advice on recruiting and managing volunteers)

Ideas for rewarding naturalists and volunteers

If your event sounds fun and produces useful data, most naturalists will take part for free. It helps if elements of your event contribute to their wider goals (for example, by promoting their interest or organisation).

In return for their input, you could:

- offer to cover the costs of travel, subsistence and consumables
- allow volunteers to promote membership of their group at the event - add their logos to publicity material and invite them to run a stall or activity
- provide an event t-shirt - this helps to distinguish volunteers and staff from the public, and promotes the event

- provide free food and drink throughout the event
- incorporate a social activity, such as a barbeque or trip to the pub following the event
- give free access to all non-sensitive wildlife records
- produce a public facing report that shows what has been achieved and lets volunteers know that their efforts have been appreciated and made a difference

Information pack for staff, experts and volunteers

In the run up to the event, send out an information pack to everyone who has signed up to help. It should include:

- background to the event, what you hope to achieve and what they can expect to get involved in
- details of the event - where, when, parking, accommodation, facilities
- details of safety procedures
- survey information - map, collecting policy, information about 'protected zones', recording form
- timetable
- claim form for travel expenses
- your contact details for any questions
- acknowledgement of funders and supporting organisations

You may also want to provide a training workshop for your volunteers in the weeks leading up to the event. Event organisers have found that this not only makes the event run more smoothly on the day but also greatly enhances volunteers' experience and enjoyment.

Basecamp: the focus for activities

Key to a successful BioBlitz is a busy, well organised and accessible Basecamp that can serve as the focus for the event.

This is somewhere for naturalists to congregate and report their results, and for participants to find out how to take part and see what has been found so far. It can also provide a useful starting point for activities. For activity ideas, see section 11.

Check whether there are any existing buildings on site you can use, ideally with electricity, water, heating and lighting. A phone line or mobile phone signal is vital in case of emergencies and internet access is extremely useful for online species identification and maintaining a live social media status during the event. If a suitable building is not available, then work out how big you need your Basecamp to be: do you need to hire a marquee or will a few gazebos or tents suffice? Make sure you plan for bad weather!

Think about what you need to provide power for e.g. lighting, microscopes, heating, kettles and laptops.

Your Basecamp needs to be:

- safe, secure and easy to navigate around
- centrally located within your activity area, if possible
- easy to find and accessible to the public
- close to parking and/or public transport links
- close to catering and toilets (accessible 24 hours if your event is running overnight)

Basecamp at Mothecombe BioBlitz in Devon



Your Basecamp should contain:

INFORMATION POINT

A stand or table where the public will find out what a BioBlitz is and how they can take part. At this point they can collect recording forms, safety information, rules, activity sheets and maps of the survey area, borrow equipment, and sign up for guided activities.

Make sure you clearly explain what a BioBlitz is and what the event is trying to achieve. You may want to include a registration process to keep track of participant numbers and contact details.

IDENTIFICATION ZONE

BioBlitzes are all about identifying the organisms that are found, so you will need an area for naturalists to confirm their identifications and help members of the public identify anything they have found.

You will need experts, field guides, microscopes, a camera, a laptop and internet access. Have a range of different identification resources, from entry level Field Studies Council laminated guides up to advanced identification books. Be aware that field guides don't always show every species in a group, especially with invertebrates, so confirm your IDs with a naturalist or a detailed key - don't just go with the picture that looks closest!

Try to get as close to species or family level identification as possible. Vague records such as 'spider' or 'bumblebee' are of limited value to the end users of the data as they could potentially refer to a huge number of different species.

iSpot is an online platform that allows you to upload photos of species to be identified by an online community of naturalists. You can set your event up with its own iSpot tag and there is also a mobile app version that can be used in the field. www.ispot.org.uk

You can never have too many plastic pots and trays for specimens! Once a specimen has been identified, it is a good idea to stick a label on the pot identifying it e.g. woodlouse - *Androniscus dentiger*. That way people can look at the specimen alongside the guides.

Some organisms will need to be dissected to be identified. Think about whether you want this to happen during or after the event, but don't shy away from explaining the need for it, or for collecting voucher specimens.

RESULTS AREA

The results area is a central point to collate your species records and display the results. Include tables and laptops for data entry and a flat screen TV or display board to publicise the latest results. Try to show examples of recent finds. If you want to update blogs and websites you will need to organise internet access. Bring a small scanner and memory card reader to digitise notebooks and collate specimen photos (or scans for seaweeds and plants) as evidence to support records. Ensure that photo providers sign a sheet giving permission for you to use their images.

CASE STUDY - Identification Triaging at York BioBlitz

"A great way of managing an identification zone is to have a "triage" system in place.

- 1. A member of the public bringing an organism to the identification zone first goes to an area where they are helped to discover roughly what it is e.g. "It's a spider, you can tell that because it's got 8 legs and two body parts". The people helping in this area do not need to be 'expert' in any particular field, just enthusiastic generalists.*
- 2. If it is a very common spider, then it may be possible to identify it to species then and there using books and other resources, and add it onto the BioBlitz species recording form.*
- 3. If it's a bit harder to identify, the person and their spider would be passed on to the more advanced identification area, where there might be more detailed identification guides, microscopes and a spider 'expert'. It may be that it can't be identified in the field, so it would have to be taken away for later identification.*

This system works well because it means that 'experts' don't get swamped with common species and instead can focus on the tricky ones. The first stage of the triage needs lots of enthusiastic volunteers to make it work. We've found that advertising to university students is a good way of recruiting volunteers - try the careers service or volunteering unit."

CASE STUDY - Species Tally at Alexandra Palace Park and Wembury BioBlitzes

"There are lots of ways you could let people know how many species have been identified. We've tried everything from low-technology blackboards to higher technology flat screen TVs. We've found that the low-tech option is often the best as it allows for easy and regular updates. A swingometer is a fun way of showing progress towards a target."

REST AND REFRESHMENT AREA

Staff and volunteers will need somewhere to sit and renew energy between surveys, particularly if they are working overnight. Fold-up chairs and trestle tables are always useful. Provide a kettle, tea, coffee and snacks.

SECURE AREA

Somewhere for staff and volunteers to leave personal possessions and store field equipment when it's not in use.

OTHER USEFUL CONTENT

It is important for your Basecamp to be buzzing with activity. It is your base of operations and you may want to include:

- first aid, lost child and fire extinguisher points
- a copy of the information folder and all relevant forms
- show and tell specimens
- craft activities such as nestbox/bug hotel building, badge making, flower pressing, etc.
- membership stands for natural history groups
- a tannoy system to announce activities and results
- a box of useful bits - antibacterial hand-gel, bin bags, tape, string, cable ties, scissors, etc.

It is a good idea to evaluate your event to see what worked well and what could be improved for next time.

As organisers, you will probably be very busy on the day, so getting feedback from the public as well as the naturalists and volunteers will be essential for getting a well-rounded view.

Evaluation is vitally important for developing future events, reporting to funders and in leveraging future funding.

Useful information to record includes:

- visitor numbers (preferably broken down by age group)
- number of species recorded
- number of records collected
- number of volunteers/naturalists engaged
- number of partner organisations involved
- the opinions and attitudes of your visitors, participating schools, volunteers, naturalists and staff

You can download an event evaluation pack from the National BioBlitz Network who will also be interested to hear your results, feeding into national research about BioBlitzes as a tool for public engagement and citizen science. The pack includes visitor questionnaires for both adults and children and advice on data collection. Feel free to use these or adapt them for your event.

Evaluation requires staff and/or volunteers to coordinate and collect the data, printed questionnaires and appropriate stationery and staff time after the event to analyse the data.

Rockpooling at Mothecombe BioBlitz in Devon

Monitoring and evaluation

Enthusiastic volunteers are essential for helping to collect and organise samples and records as well as engaging with your visitors and conducting evaluation surveys



BioBlitz is a type of environmental citizen science - the volunteer collection of biodiversity and environmental information which contributes to expanding knowledge of the natural environment. As such, BioBlitzes should produce useful data that contributes to knowledge about site biodiversity. For most events this comes in the form of a list of species records for the site that are passed on to local and/or national databases.

WHAT IS A BIOLOGICAL RECORD?

A biological record is a documented record of a particular species, in a particular area, on a particular date. Often recorders will only note the rare or interesting species but a BioBlitz aims to record everything, common or rare, to build up a full picture of the biodiversity of a site on the day. If you are new to recording, contact your Local Records Centre for guidance or download the National Biodiversity Network's *Darwin Guide to Recording Wildlife*.

THE MOST VITAL COMPONENTS OF A SPECIES RECORD ARE WHO, WHAT, WHEN AND WHERE:

Who - Who found and identified the species? Once the record is submitted it may need to be checked (verified) by an expert and this process is made far easier if they can contact the person who made the original record.

What - What is the name of the species? Give a common and scientific name if you can, otherwise note down the higher group level e.g. spider, then seek help with your identification. Take a photo if you can, to support your record. Remember that the closer to species level

identification that you can get, the more useful the data, but don't guess if you're not 100% sure.

When - the date it was seen.

Where - the location of the record, ideally as a six figure grid reference. Grid references can be found on a variety of websites but in the field you can mark the location on a map or use a GPS or mobile phone app. If you find the same species in a different location, that is a separate record so you can have multiple records for each species on your list. This is more useful than only recording each species once.

Biological records made by expert naturalists will form the bulk of your species list, however giving the public a chance to take part is arguably the most important aspect of a BioBlitz. Getting beginners involved in identification and recording is invaluable to cultivating an interest and appreciation of nature.

Recording your survey results

Privet Hawkmoth, *Sphinx ligustri*

RECORDING FORMS

You can download and adapt a standard form from the National BioBlitz Network website to collect your data or, alternatively, your Local Records Centre may be able to provide you with recording forms in their preferred format.

These forms have been designed to collect detailed and useful records and will be best deployed with naturalists and trained volunteers who can demonstrate their use to members of the public. Naturalists may have an existing standardised recording system they would prefer to use, so a scanner can be useful to copy information contained in their field notebooks.

To allow uninitiated visitors to collect their own records you may wish to produce a public or child friendly ticklist with photos of species that they may encounter, or a treasure hunt encouraging the collection of shells, seeds, leaves or similar species evidence to be converted into records later.

CASE STUDY - BioBlitz Bingo at York and Scarborough BioBlitzes

“We like running a self-guided BioBlitz Bingo activity. It’s an easy way of getting younger people and families involved in the BioBlitz. Our bingo sheets consist of an A4 piece of paper with information and pictures about species that are likely to be seen in the area, with boxes that people can tick once they’ve spotted them.

It’s good to have a mix of things that people are guaranteed to find e.g. 7-spot Ladybird, Blackbird, and things that are a little harder to spot or require a bit more identification skill e.g. Woodpigeon. We’ve found BioBlitz Bingo works particularly well if you get over-run with visitors, as you can send them off on their own for a bit with the sheet!”

MAPS

In order to record the wildlife that you find you will not only need to identify it but also accurately mark its location with a grid reference. Your Local Records Centre or local authority GIS team may be able to provide you with grid referenced maps of your site to use when recording. Alternatively Ordnance Survey maps may be suitable. Ensure that you secure copyright permission from the map producer to reprint and use maps for this purpose.

Copies of the map should be provided to naturalists and volunteers when they go recording and you may want to get a large printout to display at Basecamp.

COLLATING SPECIES RECORDS

Explain to participants how you intend to use the records they submit, so everyone taking part knows where they will end up and how they will be shared. Members of the public will be interested to see their data being incorporated and learning about how they can be used (see section 13).

Encourage naturalists to hand in recording forms throughout the day, not all at the end. As far as possible, try to type up your species records on the day (include at least one laptop at Basecamp). Alternatively, you can pull together your volunteer capacity to enter all of the data at a separate ‘DataHack’ event to crowdsource your data entry (see case study to the right).

Some experts will need to take specimens away to ID them so you will not get their lists until several weeks later. Make sure you highlight this when revealing your final species tally and update people via your website/social media after the event. Busy experts may also need reminding to send over these records a couple of weeks after the event.

When announcing your grand species total (which can be another publicity opportunity) use wording such as ‘so far’ rather than ‘final’ as there may be additional records to come from experts and they may be prompted to submit any outstanding records by the publicity!

You do not need a complex records database to hold your observations. An easy-to-use spreadsheet and trained people to enter the information will suffice.

If you are partnering with your Local Records Centre they may be able to collate your records, verify and submit them to the National Biodiversity Network Gateway database as well as using the data locally. Any marine species data can be passed on to the Data Archive for Seabed Species and Habitats (DASSH) the national Data Archive Centre for marine life data. Unless otherwise requested, DASSH will pass all records to the National Biodiversity Network Gateway.

Alternatively, you can use iRecord, an online platform created by the Biological Records Centre for submitting wildlife records directly to a national database.

CASE STUDY - iRecord DataHack at Bristol BioBlitz

“As our BioBlitz fitted within a wider programme of wildlife recording events where on-site data entry would be difficult, we decided to hold a separate ‘DataHack’ with our volunteers. We came up with this idea based on the technology focussed ‘hack days’ or ‘hackathons’ where computer programmers get together to work collaboratively on solving a problem - often development of a software application.

Here we replaced programmers with volunteers and naturalists to solve the problem of turning our paper records into digital ones, crowdsourcing our data entry and taking our volunteers’ citizen science experience a step further.

In the basement of a local pub we brought together 25 of our volunteers and lots of laptops and uploaded all of our records using iRecord. The iRecord team were able to provide us with a summary page mapping all of our records in real time as they were entered and keeping a scoreboard to add a competitive element. This was projected onto big screens so we could all track our progress.

We followed the DataHack with a reward of pizza and beer and our own wildlife themed pub quiz having entered nearly 3000 records of about 800 species in around 6 hours. The records will go on to be verified through iRecord and added to the NBN Gateway database. The volunteers loved it and the event even came in at minimal cost.”

Health, safety and related documents

As event organisers, you have a statutory duty of care. The safety of staff, volunteers and the public should always come first. The following policies, documents and checks will help ensure you are well prepared and know what to do if something goes wrong.

HEALTH AND SAFETY

Assign a named person to be responsible for health and safety at your event, and provide t-shirts or badges to staff and volunteers, so it is clear who is involved in running it. Ensure they can be contacted by the information desk and advertise this as the point of contact for incidents.

Write a risk assessment. This is a legally required health and safety assessment of your event, including all activities.

Writing a risk assessment involves identifying potential hazards, assessing how they could harm staff, volunteers or the public, and evaluating the risk of them actually happening. The final step in the process is to define and implement precautionary measures that either entirely remove these hazards or reduce the likelihood of them happening to acceptable levels.

Ensure that other organisations taking part prepare a risk assessment to cover the activities they are leading. Collate these prior to the event and make sure any precautionary measures are in place.

- Always put safety first and ensure that each activity is covered within your risk assessment. Be particularly careful around water.
- Have a central meeting point at Basecamp for all activities, to enable a safety briefing to be carried out before activities start.
- Write a simple-to-follow accident and incident procedure to ensure staff and volunteers know what to do in an emergency, including how to evacuate the site. Make an accident and incident form so you can log any that occur, how they were responded to and take measures to avoid the same thing happening in future.
- Do all you can to protect children and vulnerable adults. A written child protection policy is a good idea, and key staff should be checked by the Disclosure and Barring Service (formerly Criminal Records Bureau). Clearly state at the event that children must be accompanied by a parent/guardian at all times, and avoid one-to-one situations between children and adults.
- A simple to follow lost child procedure will ensure staff and volunteers know what to do if a child is lost or found.
- Whatever the size of your event, you will need to arrange first aid cover. There are no fixed guidelines as to what is required - it is related to the level of injury risk. As a minimum, you will need one or more trained first aiders on duty at a time and a first aid kit at Basecamp. Contact your local Red Cross or St John Ambulance branch for advice.

- Activities at night may require other considerations. Decide whether it is appropriate to limit numbers, provide (or require participants to bring) torches and high visibility vests, and always work in groups. In some situations a sign-up sheet may be required to ensure all participants return from the activity safely by a set time. Collect phone numbers for all participants in case anyone doesn't sign back in and prepare an emergency plan for anyone thought to be lost.

OTHER DOCUMENTATION

- A Public Liability Insurance Certificate is required for all public activities.
- If you intend to take publicity photos, you will need signed photo consent forms from anyone pictured, agreeing to their image being used in this way. Once they have completed a form, you could give them wristbands or stickers so your photographer can identify who has given consent.
- Collecting or surveying permits are required for some species and habitats so seek advice where necessary. Landowners and your local statutory agency should be aware if this is the case. For advice on collecting plant material see <http://www.bsbi.org.uk/Collecting.pdf>. For advice on collecting invertebrate material see <http://www.amentsoc.org/publications/online/collecting-code.html>.
- If sampling fish, local by-law exemption letters may be required and can be obtained from your local IFCA (sea and estuaries) or the Environment Agency (fresh water).
- Compile an emergency contacts list, including phone numbers for key staff, first aiders and volunteers.

Publicity

Spend some time planning how to promote your BioBlitz as effectively as possible. The aims and scale of the event will influence how widely you want to spread the word.



A mini beach at York BioBlitz!

GENERAL PROMOTION

- Register your event with the National BioBlitz Network to get your own event page on the BioBlitz website.
- Invite groups and contacts you think will be interested, and ask everyone in your partnership to do the same.
- You may want to invite a celebrity as an added 'hook'.
- Advertise locally in the weeks leading up to your BioBlitz (using flyers in libraries, banners at the venue, newsletters etc).
- Social media including Facebook, Twitter, email newsgroups, online biodiversity-related communities and blogs can be useful publicity tools.
- Target existing social groups to take part in activities, such as Scouts/Guides groups, walking for health groups, youth clubs, disability support groups or religious congregations. Getting leaders of such groups on board often attracts people who would not normally get involved in a wildlife activity and allows you to target specific audiences. Maybe you could tailor a specific activity to a group such as a cycling safari for your local cycling group?
- You may wish to recruit some volunteers to help with publicity - they may have different social networks to you, so can help to widen the reach of your publicity.

WORKING WITH THE MEDIA (NEWSPAPER, TELEVISION AND RADIO)

- Getting information about your event into the media can be a valuable and cost-effective way to gain publicity.
- Decide on your story before contacting anyone. Remember to make your message as 'newsworthy' as possible - journalists receive a lot of requests, so yours needs to stand out.
- A good story will have human interest and be of local relevance (for example, local communities getting involved in a positive activity). Events that are novel, extreme, large-scale or in interesting locations also stand out.
- Contact the National BioBlitz Network for advice on publicity and media.

ON THE DAY

- Leaflets can be handed out on the day in and around the location to encourage passers-by to attend your event.
- If you use social media then advertise the links to members of the public so that they can engage with your event in a virtual way too. If you have sufficient volunteers, ask some of them to tweet or Facebook on your behalf to create a buzz around the event. Tweet to **@BioBlitzUK** to be retweeted.

AFTER THE EVENT

Communicate species totals, interesting and exciting finds and other key information, including photographs to the media. Make a note of and photograph anything 'newsworthy' during the event and communicate this to the public.

Ideas for activities

Public engagement is a big part of a BioBlitz and a range of drop-in and guided activities are often the best way to inspire and enthuse your visitors about the natural world and the importance of recording wildlife.

CASE STUDY - Discovery zones at Alexandra Palace Park BioBlitz

“At the Alexandra Palace Park BioBlitz we were expecting large numbers of people due to the event being run in partnership with the BBC. In order to manage so many participants we decided to create three ‘Discovery Zones’ within our BioBlitz area. Each was themed with different activities. The ‘Bug Hunters zone’ included pond dipping and hedgerow surveys, and the ‘Woodland Explorers zone’ included a tree trail and leaf litter sorting. In the ‘Grassland Safari zone’ a section of the field had been left to grow long for several weeks before the event to allow sweep netting, and there was also a worm charming competition.

Each zone was enclosed with colourful bunting and had a gazebo at its entrance so visitors could find out what activities were on offer. The event leaflet included space for children to get a stamp at each zone – when they had collected all three they received a goody bag. We asked naturalists and experts to spend part of their time in the zones and part recording in the rest of the site, to ensure that whilst the whole site was covered, our visitors also got to interact with the experts. We had over 8000 visitors on the day, and this worked really well to ensure everyone got a high quality experience.”



Sophie checks small mammal traps at the Wembury BioBlitz in Devon

Themed arts and craft activities, like building this giant Garden Tiger Moth at Green Man Festival, can be great ice-breakers and allow everyone to get involved



GUIDED ACTIVITIES

Interaction with a knowledgeable person is a great draw to a BioBlitz and guided activities are popular. You could pitch these as expeditions from Basecamp, in search of species to bring back and identify. Remember to provide for a range of ages. Here are some ideas:

- guided walks to see bats, wildflower walk, dawn chorus, fungus foray, etc.
- surveying activities such as quadrat surveys, moth trapping, transect walking, tree or lichen surveys, etc.
- bug hunting, pond dipping, etc. These kinds of activities are very popular with families and can often be repeated throughout the day

Often, partner organisations and/or natural history groups will be happy to run such activities. Ensure that all those leading activities are given a recording form to keep a note of the species they see (or even better, are accompanied by a volunteer to act as a scribe), and that they show their group where they can go for identification help after the activity.

CASE STUDY - Snorkelling at Looe BioBlitz

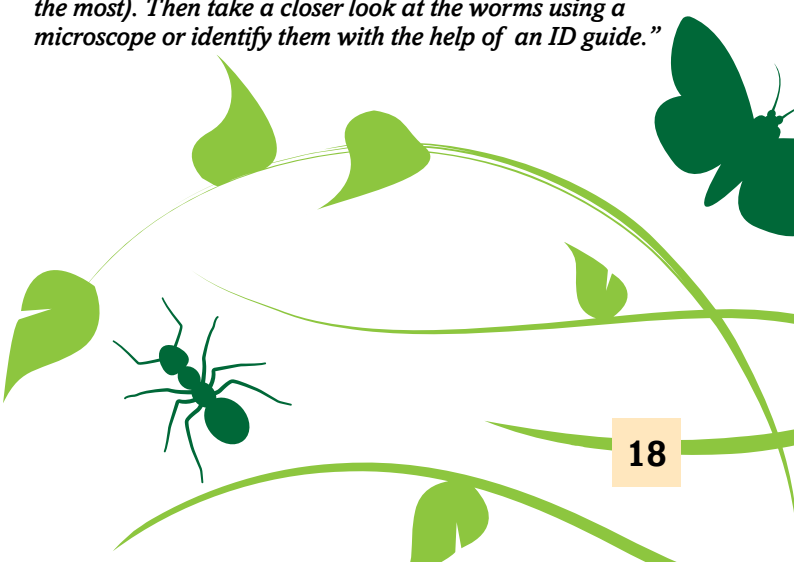
“Snorkelling is a fantastic way to observe life beneath the waves and collect records of additional species in the shallow area at the bottom of the shore. We set up camp on a busy beach and provided equipment, safety cover and expert guidance from trained snorkel instructors and ran it as a drop-in activity for all ages. Participants recorded their finds with waterproof cameras and on dive slates. The excitement of snorkelling for the first time and the opportunity to see the amazing underwater life in the area first-hand inspired a group of new recorders who may not have joined in with the event otherwise.”

CASE STUDY - Worm charming at Science Oxford BioBlitz

“Worm charming is a great guided activity to run, as absolutely all ages can take part. Mark out a grid of 2m x 2m squares using tent pegs and hazard tape. In some of the squares place a garden fork, others children’s musical instruments, and leave others clear. All squares will need a plastic cup to put the worms in. The three worm charming methods are:

1. *fork twanging - pushing a garden fork into the ground and wiggling it back and forth*
2. *music - play musical instruments*
3. *stamping your feet*

Families can take a 2m x 2m plot each. At a set time, blow a whistle or claxon to start the worm charming. Families have 15 minutes to get as many worms out of the ground as possible (without digging!). Once the 15 minutes is up, count how many worms each family has in their plastic cup and award a small prize to the winner (the person with the most). Then take a closer look at the worms using a microscope or identify them with the help of an ID guide.”





Microscopes linked up to a flat screen TV allow lots of people to see at once

SELF GUIDED ACTIVITIES

- Recording forms and maps can be given to knowledgeable participants to make their own records.
- A nature trail around the site with printed 'spotter sheets' of target species to look for (for example, the top five to find or a hunt for alien invaders).
- Send participants on 'missions' to find different species artefacts that can be identified by an expert back at Basecamp, for example, shells, feathers, leaves, nuts.
- Ask participants to photograph what they find and bring their images to Basecamp, where they can either be identified by a naturalist, or uploaded to iSpot for identification. If you are entering data using iRecord you can upload the photo alongside the record. Remember to get a signed photo use consent form if you want to re-use any images.

CASE STUDY - BioBlitz missions at Mothecombe BioBlitz

"We produced a series of 'missions', which could be taken by families from Basecamp and completed in a relatively short time. There were two types of missions - longer, more detailed missions, printed on A4 sheets and laminated and 'quick missions' printed on small slips of paper, laminated and put in a bucket as a lucky dip. Both covered the full range of habitats in the survey area and a broad taxonomic range and most required the participants to collect evidence of their finds. Detailed missions included 'find and photograph different types of crab' and included a simple ID sheet for common species.

Short missions included 'find as many different leaves on the ground as you can in 10 minutes and bring them back to Basecamp for identification'."

DROP IN ACTIVITIES

Best hosted around Basecamp, activities such as those listed below can be run throughout the day so that visitors can take part between guided activities and attract the attention of passing members of the public.

- Basecamp Blitz - intense surveying of the species found around Basecamp.
- Micro pond dipping - a tank with example specimens from your pond dipping station.
- Microscopes always draw a lot of interest, especially if linked to a laptop or flat screen monitor. The monitor can help you explain what is being looked at, and several people can interact at once. Try analysing a sample of soil, sand, plankton, or pond water.
- Wildlife-related stands and stalls, nestbox building, face painting and crafts. Don't underestimate the value of these as icebreaker activities and a way to capture attention.
- Competitions, such as wildlife photography/drawing and guess the number of species that will be found, can be really popular.
- Information area - even if local organisations (e.g. friends groups, conservation or volunteering organisations, natural history societies, scuba diving clubs etc) aren't able to come along to run an activity or promote their work, they may like to provide you with a poster or other display. This is often popular both with the organisations and the public who attend the event.

TIPS FOR PUBLIC ACTIVITIES

- A mixture of scheduled and drop in activities is best.
- Provide clear information about what is going on and how to join in.
- Think about how to encourage people to take part in recording activities. Goody bags, stickers or badges for children who complete one or more activities are always popular.
- Running structured activities with the public is very rewarding but can also be tiring, so try to rotate duties between volunteers.
- Advance bookings on individual activities helps with predicting visitor numbers and can help with attendance barriers (such as weather conditions) as booked participants have a level of commitment.

TIPS FOR WILDLIFE SURVEYS

- Remember that naturalists will most likely want to do some 'solo surveying' as it is often difficult to lead a group and record wildlife simultaneously. Rotating shifts or providing a few hours of surveying time whilst closed to the public can work well.
- Invite as many naturalists as possible from local societies and recording schemes. This is a great way to share expertise and enthusiasm and build a detailed and rounded inventory. It is important to involve these groups in the planning as early as possible.
- In coastal locations, tide times can influence when certain surveys must take place. Your schedule needs to have room for flexibility.
- For coastal events, dive surveys can add to the survey greatly. Engage with Seasearch groups and local dive clubs. If possible arrange for divers to bring photos and video back to Basecamp for public display.
- Work to the skills of those present and the habitats available.

AFTER-DARK ACTIVITIES

Some surveys can only be conducted at night, for example, bat surveys and moth trapping, but night-time activities bring extra health and safety risks. It may be best to leave the following activities to your naturalists and volunteers or limit public numbers through a booking system.

- Bats are easy to track with a bat detector and ideal for guided walks, although if you are running your BioBlitz in summer, remember that it doesn't get dark until quite late! Contact your local bat group.
- Light trapping for moths is well suited to public involvement either on the night or by examining the catch the next morning. Contact your local moth group.
- Live trapping of small mammals should be conducted by trained people - remember to check traps regularly. The Mammal Society can advise. www.mammal.org.uk
- Many terrestrial invertebrates are very active at night. You can search by hand or set pitfall, flight interception or malaise traps to check in the morning.
- Beach surveys and rockpooling are completely different after dark compared with during the day - the beach and foreshore come alive with invertebrates at night. Survey by torchlight or set pitfall traps. Check tide times and pay particular attention to safety.
- Record birdsong at dusk and as dawn approaches, or run a dawn chorus walk.

TIPS FOR WORKING AFTER DARK

Night surveys are among the most exciting aspects of a BioBlitz. They are something most of us don't get to do very often and a great opportunity to see wildlife that is hidden by day. This novelty appeal can be a real draw for scientists, naturalists and public alike, but it does need careful planning.

- Safety is paramount. Think carefully about the value of remaining on site throughout the night and place safety first. In open public sites think carefully about security and who else might use the site after dark.
- Decide who you want to be on site, and ask participants to sign in and out of Basecamp. Decide how many (if any) members of the public you will have on site, at what times and take bookings in advance. Public participants should be supervised at all times.
- Will you need to provide sleeping arrangements? Get site permissions before allowing people to camp on site.
- Ensure the site is secure and adequately lit. The main access routes to and from Basecamp should be obvious.
- Write clear emergency procedures and brief everyone who will be on site overnight.
- Work in pairs or small groups (never alone) and take particular care around water.
- Ask everyone to wear a reflective jacket and carry a whistle and torch.
- Be sensitive to people who live nearby and notify the local community and police/coastguard that you will be on site.
- Ensure there are always at least two people at Basecamp.
- Organise plenty of food and hot drinks and ensure you have 24-hour access to toilet facilities.
- Data entry and species identification can continue through the night and it is great to be able to provide up-to-date species total at the start of day two. However, make sure everyone gets a rest!

CASE STUDY - Nocturnal activities at Looe BioBlitz

"Night time is probably the most fun part of a BioBlitz. Start at dusk with a bat walk, ideally led by a local bat group. Arrange it so that the bat walk ends at the location where your moth traps are set up, so bat walk participants carry straight on to moth trapping. Circulate around a number of light traps if possible, and keep checking as new moth species may turn up throughout the night. The Looe BioBlitz also featured midnight rockpooling. We took a limited group of people out onto the rocks with a strict signing in and out procedure. Everyone had a head torch and fluorescent vest. Many animals are more active at night so you see much more than in the day when they're all hiding underneath the seaweed!"



Involving Schools

If your BioBlitz is in term-time, you may want to invite local schools to take part. We've often found that with a Friday to Saturday structure, children will bring their parents back on the second day!

Invite them well in advance, bearing in mind that it will take schools time to organise supply teacher cover, transport to your site, and get permissions from parents. Give them specific time slots to attend and an idea of what activities they will cover. The teachers may want to visit the site in advance to assess any health and safety risks. A Sunday to Monday structure can also work and it is nice to be able to show schools the specimens found on day one and provide totals so far, although, a fresh team of enthusiastic and wide awake educators is recommended!

The secret to a successful schools session at your BioBlitz is to recognise the motivations and requirements of all of the key participants. It is vital to get teachers to 'buy in' to your event as their motivation will be the most significant factor in whether or not their class attends.

PRACTICALITIES

- Recruiting school groups with limited access to travel budgets and limited days out of the classroom available can be time consuming so start early.
- Think about the practicalities for the school. Will they have a space to have lunch? Is there coach parking? Can they walk to the site? Will there be a lot of administration?
- Provide a risk assessment, photo consent form and briefing for teachers well in advance, to reduce the administrative burden on them.
- Split classes into smaller groups (10 or so) as they will be easier to manage and you will be able to provide a better experience.
- Involve the teachers and group leaders in the activities as well as the students.
- Ensure that the naturalists leading the activity feel comfortable working with a school group. Discuss content with them well in advance and remember that they may have varying levels of experience of working with school groups, so may appreciate some extra support.

CONTENT

- If you can match activities with school curricula and learning objectives it may make your event more appealing to schools, especially if you can also demonstrate strong science context.
- Demonstrate scientific method by creating a hypothesis for the students to test or let them come up with their own. Perhaps you could compare the biodiversity of two different habitats on the site?
- Providing related classroom activities for teachers to take back to school or in advance of the event increases the educational value of your event. There are teachers' BioBlitz resources on the National BioBlitz Network website.
- Feed back the data collected to the school. They may wish to write up their experiments and/or do some analysis of the data.
- If your survey area includes school grounds, send experts to the school and ask students to undertake surveys of the habitats there.



Demonstrating different surveying methods such as 'sweep netting' and 'tree shaking' can be followed up by helping children identify specimens that they have found for themselves



After the event

Post-event analysis is really important and maximises the value of what you have achieved. Here are some ideas for making the most of the enthusiasm and wildlife records generated by your BioBlitz.

MAKING THE MOST OF THE SPECIES RECORDS

It's important to make the most of the wildlife data that your BioBlitz gathers. The end point for the data you collect should be the National Biodiversity Network Gateway (via the Data Archive for Seabed Species and Habitats (DASHH) for marine data). Data are shared through the Gateway and DASHH by many organisations and they make easy access points for anyone wishing to view and use the information.

Before the data are made publicly available they need to be checked by experts who can verify the accuracy of the identification. Entering your data into the online recording system iRecord on the day or passing them to Local Records Centres and national recording schemes after the event can help ensure that the records are verified and made available for use.

Also try to:

- identify any species that require follow-up work.
- edit the species list and do a simple analysis of the dataset. You could look at total numbers of species within different taxonomic groups, 'first records' for the county, region or even country, rare and protected species, proportions of native and non-native species or compare your findings with previous surveys of the site.
- circulate the species list. Verified records will be of interest to local natural history societies and recording schemes, Local Records Centres, statutory bodies and council ecologists.
- feed relevant findings into site management practices.
- follow up any interesting scientific stories.

MAKING THE MOST OF THE EVENT

- After the event, make sure that you feed back to your volunteers in a timely fashion.
- Thank those who helped for their input and ask for feedback on what worked well and what could be improved next time. This could be a thank you email, perhaps including some photographs of the event or some specific feedback about the activities, and a total number of species found.
- Evaluate the event's success and reflect on lessons learned - feed back to the National BioBlitz Network. (see Section 7).
- Circulate a brief report of the findings to scientists and naturalists, volunteers, the landowner and any sponsors.
- Send a snappy summary of findings to local media contacts so that members of the public who attended will be able to see the results.
- Arrange follow-up talks with local schools and communities.
- Start planning for next year!



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LOTTERY FUNDED

Resources and links

- You can download a copy of this guide and additional free resources from www.BioBlitzuk.org.uk
- The Darwin Guide to Biological Recording (National Biodiversity Network): www.nbn.org.uk/Useful-things/Publications-Darwin-Guide-to-Recording-Wildlife-pdf.aspx
- BioBlitzes in Yorkshire: Lessons learned www.opalexplornature.org/sites/default/files/7_image/BioBlitz-lessons-learned.pdf
- Find a natural history group near you: www.nhm.ac.uk/naturegroups
- Get help with identifying species online: www.ispot.org.uk
- Links to current public-facing wildlife surveys: www.nhm.ac.uk/ukbiodiversity
- Information about recording marine species, free identification resources and species information: www.mba.ac.uk/recording
- National Biodiversity Network: www.nbn.org.uk
- Data Archive for Seabed Species and Habitats (DASHH): www.dashh.ac.uk
- iRecord: www.brc.ac.uk/irecord
- Local Records Centres: www.alerc.org.uk





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