

The Devon Greater Horseshoe Bat Project Final Report



Photo: Greater Horseshoe Bat, Mike Symes



The Devon Greater Horseshoe Bat Project ran from October 2015 until January 2021. This report provides a summary of the aims, achievements and legacy of the project.

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1. Introduction: Greater horseshoe bats and their place in Devon

The population of Greater Horseshoe Bats (GHB) has declined by over 90% in the UK during the last century, with an associated 50% reduction in range. This has been mirrored across northern Europe with Devon now a stronghold for the species in the region.

The Devon Greater Horseshoe Bat Project was a 5 year partnership project of 18 organisations led by Devon Wildlife Trust and supported by the National Lottery Heritage Fund, as well as other funders.

The project ran from October 2015-January 2021 with a pilot year from June 2014-May 2015. This report gives an overview of the aims, scope, achievements, challenges and legacy of the project.

Alongside this final report, there is further detail about the effectiveness and success of the project in the Final Project Evaluation. For further information about Devon Bat Survey, please see the Devon Bat Survey 2016-2020 Final Report. An Online Book provides a user-friendly summary of the achievements: https://devonbatproject.org/end-of-project-information/

The overall budget for the project was approximately £1.1 million, with 65% of this coming from National Lottery Heritage Fund, with match funding from a variety of funders (see acknowledgement at end for full list of funders).

2. Aims and objectives

The initial vision for the project was to secure the future of the greater horseshoe bat in Devon: the northern European stronghold of this highly threatened mammal. This vision was separated into 3 strands of the project:

- 1. Work with landowners to **secure habitats** for bats in coherent networks across landscapes through the following objectives:
 - a. Give farmers and landowners a thorough **understanding** of bats, wildlife and the environment in relation to their land and local landscapes, ensuring they are able to **use this knowledge** in the long term and pass it on to others.
 - b. Enable farmers and landowners to **secure funding and support** that ensure bat **habitats are managed**, restored and created across whole landscapes.
- 2. Work with the people of Devon to **raise the profile** of greater horseshoes as a flagship species for the county through the following objectives:
 - a. Provide communities across Devon with a thorough knowledge of greater horseshoe bats, enthusing and inspiring people about this species and its relevance to their lives.
 - b. Enable individuals, groups, organisations, schools and communities to get involved in bat conservation, from spreading the word to active tasks and surveys.
- 3. **Improve our knowledge** of greater horseshoe bats and how they use Devon's landscapes through the following objectives:
 - a. Work with specialists, academics and Devon's communities to develop a better understanding of how greater horseshoe bats use the landscapes of Devon.





b. Using the learning gained through the project, guide activities on the ground to have maximum positive impact on greater horseshoe populations and challenge thinking and systems to ensure greater horseshoes are given adequate protection and support for the long-term.

3. Scope and impact of project

The project was focused on 11 priority areas across the county. These priority areas were chosen based on the known GHB maternity roosts and historic maternity roosts in Devon and cover a 4km radius centring on the roost site; the sustenance zone size was based on the guidance for the South Devon SAC for greater horseshoes which each identified 4km core zones as particularly important.



Figure 1: 11 priority project areas based on known maternity roosts and historic maternity roosts

3.1 Greater Horseshoe Bat population trend

It is not possible to directly link changes in Devon's GHB population to work of the project, however over the course of the project, according to the NBMP data collated by the Bat Conservation Trust, greater horseshoe bat numbers are estimated to have grown, continuing the upward trend during the course of this century.

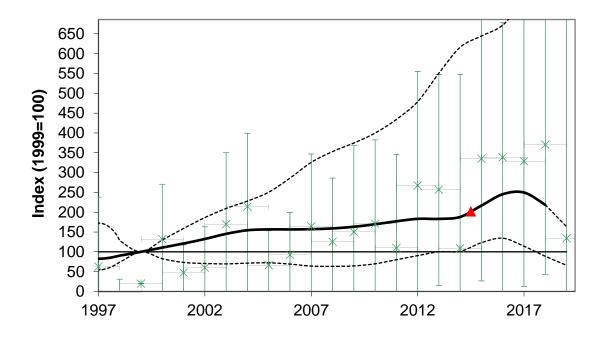


Figure 2: Trend analysis for Devon GHB from 1997-2019 based on NBMP hibernation counts and kindly supplied by Steve Langton of the Bat Conservation Trust. NB no data was collected in 2020 due to covid-19 restrictions.

From 2014, coinciding with the start of the pilot year of the project, a notable uptick in population trend begins, and this is continued until 2018, with record high counts. 2019, however showed a large drop in bat numbers. This drop was reflected in counts across the country, and may be attributable to the mild winter and random effects of low count numbers, but should be seen as a sign of the continuing fragility of the population despite the general positive trends.

3.2 Evaluation

Please see separate report 'Final Evaluation' compiled by David Rolls Associates for an overview of the impact and success of the project (available from Devon Wildlife Trust on request).

4. Governance of the project

During the delivery phase of the project, the project team was hosted by Devon Wildlife Trust and largely consisted of:

- 1 x Project Manager (Ed Parr Ferris 2014-2016, Ruth Testa 2016-2019, Anna David 2020-end)
- 2 x Farm Advisers (split geographically across project areas (Mike Symes 2015-end in north and east of project areas and Anna David 2015-2019 (with 7 month maternity leave break covered by Kitty Maurice in 2018). Anna was replaced by 2 part time contractors in final year of project after moving to project manager role)
- 1 x Community Engagement Officer (Helen Parr 2014-end, 0.8 FTE, moving to 0.6 FTE in final year of project)
- 1 x Community Engagement contractor (2016-end Lizzy Mooney, 0.2 FTE)
- 1 x PhD student supported by the project (Domnhall Finch 2016-2020, Max Anderson was also funded in 2020 after the completion of the initial PhD)
- In the final 20 months of the project a Devon Bat Survey Assistant (Elinor Parry) was employed at 0.8 FTE, and in the final 9 months at 100% FTE.







The project team were employed to carry out the project on behalf of the project partners, and this was embedded in the governance of the project with:

- Steering group consisting of representatives from each of the partner organisations and chaired by Pete Youngman of East Devon AONB. The steering group met approximately 2-3 times a year
- 3 task and finish groups representing each aim of the project:
 - Research Task and Finish group: met 1-2 times a year and was chaired by Ian
 Egerton of the Devon Biodiversity Records Centre (DBRC). The group discussed
 direction of research, advised on best practice (e.g. with Devon Bat Survey) and
 inputted on the PhD part-funded by the project amongst other things.
 - Habitats Task and Finish group: met approximately 3 times a year and was chaired by Roger English of the South Devon AONB. The main focus of the meetings was to review the applications for BatWorks grants and to decide which would be awarded funding. The group also had updates from Facilitation Funds across project areas and progress in Countryside Stewardship applications and workshops.
 - Communities Task and Finish group: met 2-3 times a year and was chaired by Nicky Bailey of the South Devon AONB. The group guided the community engagement work including organising the annual Bat Festival, set up and ongoing use of Bat Beacons and Bat Trails, and supporting communities to become bat friendly.

Quarterly NLHF meetings were held in order to report back to the main funders of the project. These meetings were held in person until 2020 when the meetings went online due to Covid restrictions. These meetings enabled the project team to report back to the lottery on the previous quarter and flag up areas that were proving challenging and request changes if necessary, to work plans/budgets. These meetings were attended by a director at DWT, the project manager, Chair of the Steering Group (Pete Youngman of East Devon AONB), funding officer from DWT and 1 representative from NLHF and their appointed project mentor.



5. Communications

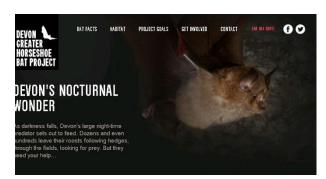
Communicating the aims and findings of the project were key to its success. Below are outlined the key communication methods employed by the project:

Activity	Target	Project achievement
Produce greater horseshoe bat video for presentation at events and through website	1 video produced and available on- line	3 professional videos made focusing on each strand of the project.
Facebook and Twitter accounts set up supporting community engagement and interaction (updates)	Weekly updates provided throughout the project term	Over 2000 followers on both Facebook and twitter.
Multi-media exploration - new links made with infra-red cameras installed in roosts in Devon	Infra-red cameras established and maintained in 2 new roosts	Cameras in 2 roosts with live video links.
Interactive web site established - continually updated	Fully functioning web site receives over 125,000 hits	111,000 hits, 69,000 users
International Conference - Bats in their Communities - A spotlight on engaging communities with bat research	Conference held with broad spectrum of communities represented	Over 50 people attended our communities conference in 2018
E newsletters published quarterly	20 e-newsletters produced and widely distributed	56 e-newsletters published during the project.
Attend regional, national and international conferences and deliver presentations	Best available contemporary knowledge informs project delivery	15 conferences were attended and presented at during the course of the project.
End of project conference held, report published and disseminated	Inspiring conference held with positive feedback from delegates	Over 200 people attended the well-received online conference in September 2020. The talks are available to view on the DWT YouTube account and have been viewed up to 150 times so far (as of Jan 2021)



5.1 Website & Social Media

The DGHBP website was a very effective way to connect with different groups of people, reaching thousands of individuals in Devon and beyond. Subscribers to the website received regular enewsletters keeping them up to date. Wider publicity included appearances on Countryfile and BBC Spotlight local news, as well as interviews on BBC Radio Devon and featuring on the Bat Conservation Trust podcast.



Home Page of Website

After the project, having a central place to keep things like project films, videos, Bat Buddy Award and useful downloads is a long lasting and easily accessible way of sharing resources and knowledge whenever people need them. These resources will be available for at least 5 years on the project website. www.devonbatproject.org

Various social media platforms were used effectively to spread the word. With over 2,000 followers on both Twitter and Facebook, and a growing number discovering the more recent Instagram account. By transferring bat films and videos, along with the Bat Project Conference talks, onto the Devon Wildlife Trust You Tube account, this wide reach will continue as part of the project legacy.

5.2 Roost camera and project films

The website had a live feed during the summer months showing footage from the infra-red camera in one of the roosts. This was a popular part of the website and a great way to bring the secret life of bats to people. When the bats were not active in the roost, people could watch recorded video clips and professionally made project films on the website. The camera was maintained by Vincent Wildlife Trust and the project covered the cost of the broadband connection costs. This arrangement will continue beyond the lifetime of the project.



Stills from project films



Still from roost camera







5.3 Attendance, delivery and organisation of conferences

Volunteer Forum - April 2016

This event brought together 80 potential volunteers to help celebrate the start of the 5-year project and find out about how they could help by volunteering for the project. There were talks and workshops to inform and inspire, as well as informal chats between people from different parts of Devon. Subjects included:

- Bat ecology
- Devon Bat Survey
- Outdoor session what makes a great bat habitat

Communities Conference - June 2018

Our Bats & Communities Conference was aimed at people who can make a difference in championing bats in their communities. There was a series of inspiring talks from both professionals and local champions. By the end of the day we had equipped attendees with the knowledge and confidence to make their village or town bat friendly, through activities such as:



- the promotion of bat friendly gardening
- spreading the word through events
- leading bat walks
- undertaking bat surveys
- bringing bat friendly thinking into neighbourhood plans

Bat Project Conference (online) - September 2020

In the final year of the project, the team wanted to share what they had learnt over the course of the project. The Bat Project Conference consisted of a range of expert speakers and community representatives over two days. It covered four themes of Research, Roosts, Land Management and Communities. Throughout each day there were also question sessions and networking opportunities. The talks were recorded via Zoom and put onto You Tube. https://www.youtube.com/playlist?list=PLSa195I9ns hmhqKk3TJZsMAtvsgOdiBW

Attended and presented at conferences

Alongside hosting 3 of our own conferences, we also attended numerous externally organised events. We presented at the South West Bat conference, the South East Bat conference, a global bat conservation online conference, national Landscape Scale Planning Symposium and the British National Bat Conference as well as having the work of the project promoted through Domnhall Finch, the project's PhD student.





6. Research: Improve our knowledge of greater horseshoe bats and how they use Devon's landscapes

Aim: Work with specialists, academics and Devon's communities to develop a better understanding of how greater horseshoe bats use the landscapes of Devon.

Activity	Target	Project achievement
Establish a citizen science programme	3000 people will be engaged in	2553 households (over 3050
based around survey and monitoring	greater horseshoe citizen	people)
	science programmes	
Detailed Citizen Science work carried	20 in-depth surveys in priority	25 in-depth surveys were
out in priority landscapes (priority	landscapes	completed.
landscapes surveyed)		
Deliver targeted bat monitoring	45 'Anabat' recorders in use by	This target was adapted for
through loan of bat detectors through	communities across Devon - a	the use of SM4 detectors
website (detectors in use - 5 carried	further 80 per year secured from	instead. 8 anabats have been
forward)	Exeter University	in use during the project to
		help inform land management
		decisions.

6.1 Large scale citizen science project (Devon Bat Survey)

The Devon Bat Survey was a hugely successful citizen science project which engaged over 3000 people during the course of the Bat Project. It ran throughout the 5 summers of the project, generally between April and October (but August – October for 2016 and 2020). 20 'host centres' each year (apart from 2016 and 2020 when it was 10) acted as pick-up and drop-off points for members of the public taking part in the survey.

SM4 bat detectors were placed out for 3-5 nights in one location and after the survey, participants were sent a report detailing the bat species which were found.

During the course of the project it amassed over 3.8 million sound files and more than doubled the known locations of where greater horseshoe bats are found in Devon.

As the Devon Bat Survey was such a large and complex part of the project, please see the documents:

- Devon Bat Survey 2016-2020 Final Report https://devonbatproject.org/wp-content/uploads/2021/01/Devon-Bat-Survey-Final-Report-2016-2020.pdf
- How to run the Devon Bat Survey (Please ask Devon Wildlife Trust for a copy of this report)

6.2 Use of Anabat detectors

The project also made use of anabat detectors on a more informal basis. 8 anabat detectors were used by project staff and partners mainly in order to inform habitat management decisions on farms which were in receipt of advice from the project. This enabled the team to accurately understand where greater horseshoes and other bats were using features on a farm.



6.3 PhDs supported by the project

One of the main methods of delivering the research element of the Bat Project was through partfunding and hosting a PhD student. The PhD was initially started at the University of Exeter under the supervision of Professor Fiona Mathews and later transferred to Sussex University alongside Professor Mathews. The aim of the PhD was to better understand how greater horseshoe bats use landscapes with the expectation that a predictive model could be produced to help inform planners in the future. The following papers were areas which were focused on during the PhDs and supported by the project:

- Circuitscapes: predictive modelling of how greater horseshoe bats use landscapes and identifying pinch points: https://link.springer.com/article/10.1007/s10980-019-00953-1
- Impact of road traffic noise on greater horseshoe bats
 https://www.researchgate.net/publication/340408804_Traffic_noise_playback_reduces_the
 activity and feeding behaviour of free-living bats
- Impact of different street lighting types on greater horseshoe bats (not yet published at the time of this report)
- Meta-analysis on the impact of livestock worming products on dung beetles https://setac.onlinelibrary.wiley.com/doi/abs/10.1002/etc.4671
- Impact of cattle management on bats and dung beetle populations https://www.mdpi.com/1424-2818/12/10/406

6.4 Community led research

The project also supported community led research projects:

- 'BatFastleigh': better understanding how greater horseshoe bats are moving out of the town of Buckfastleigh on the way to their foraging grounds in the wider countryside
- Braunton Winter Research Project: a study with support of Devon Bat Group on the winter activity of greater horseshoe bats in and around Braunton.

Aim: Using the learning gained through the project, guide activities on the ground to have maximum positive impact on greater horseshoe populations and challenge thinking and systems to ensure greater horseshoes are given adequate protection and support for the long-term.

	Activity	Target	Project achieved
	Training workshops held with Local	10 workshops delivered & all local	11 sessions held
	Authority planning teams to ensure	authorities benefitted from events	
	bats are considered strategically in		
	local planning		
	Training workshops held with	All Devon 'regions' have workshops	5 sessions held across all regions
	ecological consultants / architects	delivered	
	working within Priority Landscapes		
	Advisors' knowledge and skills	10 workshops held	11 completed
	exchange events and workshops		
	All available GHB data managed	Central repository of data	All data from the Devon Bat Survey
	centrally, verified and used to	established and managed - efficacy	and Anabat recordings were passed
4	strategically target effort	reviewed by forum	on to DBRC for use in the future
	Project evidence informs forward	Yearly GHB and planning updates are	GHB data and guidance provided to
	planning and development control	presented to all Local Authorities	planning authorities





7. Community engagement: Work with the people of Devon to **raise the profile** of greater horseshoes as a flagship species for the county.

Aim: Provide communities across Devon with a thorough knowledge of greater horseshoe bats, enthusing and inspiring people about this species and its relevance to their lives.

Activity	Target	Project achievement
Bat Beacons - 2 static bat exploration 'hubs' established across Devon	2 bat beacons developed plus one maintained from development phase	2 bat beacons at Berry Head NNR and The Donkey Sanctuary
Bat Beacons - 2 mobile bat exploration 'hubs' established	3 mobile bat beacons developed	3 mobile bat beacons used across Devon
Bat Trails - 4 accessible trail networks established from towns in the heart of Priority Landscapes	4 new trail networks developed across Devon	12 Bat trails developed, available to downloads form website
Hibernation hikes - guided walks tracing bats journeys through the landscape	15 hibernation hikes held - other community groups run affiliated events	15 hibernation hikes held
Programme of habitat and farm visits - public	30 community walks are held	81 community walks held
Programme of community events / activities	125 community events held	172 Community events held

7.1 Bat Beacons & Bat Trails

Five 'bat beacons' with interpretation (displays and touchscreens) have helped raise awareness across the county. As well as 2 permanent beacons at Berry Head and The Donkey Sanctuary, 3 mobile versions have been borrowed to date by around 20 venues. Along with 12 Bat Trails, encouraging walks around bat habitats and 2 exhibitions, the beacons will continue to be used into the future with the support of partners. The information from the bat beacons will be made available at the end of the project on the website to ensure that the information continues to be readily and freely available.





7.2 Community Events

Getting out to over 200 events and spreading our messages widely has been key to our community engagement work. Events include:

habitat walks

bat talks

stands at events

• practical conservation tasks

volunteer forums

training events

The Annual Bat Festival reached at least 1000 people each September, and comprised events such as bat walks and talks, and more latterly, social media campaigns and online events.



Aim: Provide communities across Devon with a thorough knowledge of greater horseshoe bats, enthusing and inspiring people about this species and its relevance to their lives.

Activity	Target	Project achievement
Visits made to school and education groups	250 in-school activities held	250 in-school activities held
Bat buddy scheme established - community and school groups (groups engaged)	31 education groups are accredited and children are 'bat buddies'	53 Bat Buddy awards achieved
Community award / accreditation scheme developed (communities signed up)	4 towns sign up to be 'bat friendly' and are accredited	5 accredited towns/villages in Beer, Braunton, Bovey Tracey, Buckfastleigh and Chudleigh
Training the trainer - programme of workshops for education and community group leaders	10 workshops held	16 workshops held
Practical volunteer tasks	60 diverse practical volunteer events held	60 diverse practical volunteer events held
AQA awards for volunteers - number of volunteers securing accreditation	44 Volunteers secure AQA accreditation	69 Volunteers secure AQA accreditation
AQA training events	16 formal training events held with additional 1:1 support provided	16 formal training events held with additional 1:1 support provided
Annual Bat Week - festival of events and activities	5 bat week celebrations are held	5 bat month-long celebrations are held



7.3 Schools

Over 250 school activities have engaged more than 5500 pupils (plus 850 school staff involved, and the parents and families who may hear about the bats from their child). Developing a Bat Buddy award scheme with bronze, silver and gold awards was a brilliant way to reward children for their effort in becoming a bat friendly school. The award aims to fit with the curriculum, whilst including action on the ground, linking to the whole community and being lots of fun too!

The Bat Buddy Award is a great way to get young people enthusiastic about bats and other wildlife. They are often concerned about the climate emergency and this empowers them to take action locally where they can really make a difference. 53 awards have been achieved during the project. The award has now gone fully online on the DGHBP website to ensure it continues to be offered.



7.4 BatWorks grant for schools and communities

The ability to apply for a BatWorks grant of up to £1000 was a great way to kick start involvement by schools and communities. Examples include buying bat detectors to lead bat walks, equipment for forest schools activities and making up wildflower seed packets for local distribution to encourage bat friendly gardening.

7.5 Volunteers, AQA awards and Training

Volunteers have been integral to the project in many ways:

- joining practical events to learn a new skill such as hedge-laying or scything
- helping with the Devon Bat Survey or targeted Research Surveys
- analysing bat data
- 12 Train the Trainer sessions gave educators/trainers the skills to share knowledge
- 25 other training events took place, including how to run a bat walk, and data analysis training
- Helping with social media, writing articles and adding events to the website

The training events have enabled 69 volunteers to receive AQA awards - a nationally recognised qualification – in areas such as Carrying out Surveys and Practical Conservation. The confidence and knowledge these volunteers now have is a wonderful testament to the level of interest in the project, and bodes well for the future.





7.6 Bat friendly communities

A bat friendly community (BFC) is a village or town where bats are at the heart of decision making, planning and local activities. Each community will have their own concerns and priorities generally but the BFC focus can bring these things together to promote a bat friendly (and therefore wildlife friendly) and biodiverse environment for the benefit of both people and wildlife.

Each of the 5 accredited BFCs built up a record of their 'bat friendly' activities. The project provided advice and support such as talks, events and training to enable potential BFCs to do this, and to identify the actions they could take to become a BFC. By the end of the project accreditation was awarded to Chudleigh, Beer, Bovey Tracey, Buckfastleigh and Braunton.

Using bats as a focus, people have been able to discuss and plan things in a joined-up way to improve their local environment and create a bat friendly community.

Examples of the bat friendly community work:



Bat Friendly Beer created their own logo, sowed wildflowers and organised bat walks. Their bespoke logo helps to spread their message.

Chudleigh created a bat garden with a unique bat bench.



In Braunton they developed an audio pen for their bat trails which contains a voice recording telling people about bats in the area as they walk, along with bat waymarkers, and a bespoke bat viewing platform. The Parish Council have shown how changes to cutting regimes and sowing of wildflowers can make all the difference to formerly mown road verges.







Gunnislake Community Matters ran a seed planting initiative, using bat project wildflower seed packets and a bat gardening booklet to encourage residents to get involved and help bats.



Bovey Bat Group ran monthly bat walks through the spring and summer. With some training and support from BatWorks to buy bat detecting equipment, they have achieved much in a short time. They are now linking with the Town Council to support tree planting and wildflower sowing in the town.



In Buckfastleigh people have shared their love of bats with events such as the unique Bat Swims — night-time swims in their outdoor pool with some bat detecting thrown in. A colourful greater horseshoe mural was created at a community event. There have also been targeted research surveys and now the new 'Be Wild' initiative is focusing on how to improve biodiversity in the town.

7.7 Future work

Now that the BFCs are equipped with knowledge, enthusiasm and confidence, they can continue to spread the message about bats in their communities and ensure that future decision making takes them into account.



8. Habitats: Work with landowners to **secure habitats** for bats in coherent networks across landscapes

Aim: Give farmers and landowners a thorough understanding of bats, wildlife and the environment in relation to their land and local landscapes, ensuring they are able to use this knowledge in the long term and pass it on to others.

Activity	Target output	Project output	% achieved
Habitat management, restoration and re-creation workshops delivered	31	107	345
Woodland and hedgerow planting workshops delivered	10	15	150
Landowner advisory site visits	950	950	100

The GHB project has influenced in excess of 200km² of farmland in and around the most important roost sites. Land managers are now far better informed about what GHBs need and how to ensure they manage their habitat with this in mind.

8.1 Workshops

In total over 100 farmer/ landowner workshops were held across the project areas and took many forms. Example topics include:

- Countryside Stewardship- An overview of the options available and how to apply
- Parasite management for livestock and horse owners
- Managing bat roosts
- Herbals leys- establishing and maintaining
- Machinery demos
- How to undertake Faecal egg counts
- Basic intro to greater horseshoe bat habitat requirements and ecology

- Woodland management and how to identify signs of ash dieback
- Hedge management
- Natural flood management solutions
- Understanding the importance of healthy soils
- Farm management to benefit pollinators
- Orchard restoration
- How to reduce farm carbon footprint
- Helping farmland birds



East Devon Facilitation Fund farm walk – looking for pollinators event

Tamar AONB CS mid-tier



The target for the number of workshops run by the project was exceeded by over 300%. This was in large part due to the work undertaken by the project in the delivery of the Braunton Facilitation Fund as well as supporting in the delivery of a further 4 Facilitation Fund schemes.

8.2 Braunton Facilitation Group case study:

The Braunton Facilitation Group comprises 32 farmers, woodland owners and land managers with a combined total landholding of 3,900 hectares in and around the Braunton area. The maternity roost in Braunton is thought to be the third largest in Devon, and there are also important hibernacula in the area.

Facilitation Groups are funded through DEFRA's Countryside Stewardship scheme, and they are designed to encourage groups of landowners to work together to improve their farm management across the local landscape. The Braunton Facilitation Group has been a great example of how the DGHBP has worked with landowners to achieve positive environmental outcomes and raise awareness of greater horseshoe bats.

Since the Braunton Facilitation Group's launch in November 2016, the project has organised and delivered a wide-ranging programme of workshops, designed to cover a variety of environmental and agricultural topics. To date, in excess of 60 workshops have been successfully delivered. Workshop feedback has been very positive, with attendees finding the sessions very useful and informative.

The workshop programme has led to many positive outcomes being achieved on group member farms. Project staff have assisted with 20 Countryside Stewardship mid-tier applications and 2 CS higher tier applications for group members; over three-quarters of the group are now in some form of stewardship grant scheme. In order to receive their endorsement for being a group member, it is necessary for members to discuss their grant applications with the facilitator (DGHBP) to gain approval, so this ensures that all opportunities for habitat restoration to benefit bats and other wildlife can be fully explored before submission. Themes which we have covered over the years have been incorporated into many of these new agreements, and it has been pleasing to see options such as herbal ley establishment, hedge creation/laying, orchard management and reduced fertiliser usage being included.

A key topic for the project has been parasite management, as some worming products can have a significant negative effect on dung beetle abundance, and in turn, greater horseshoe bat food availability. As part of the Braunton Facilitation Group four workshops have been held on this subject, including a practical demonstration of faecal egg counting, and as a result of this many attendees have indicated that they have or will be changing their practices to use less harmful products. One large dairy farmer has bought a microscope and kit and is now confident to undertake his own faecal egg counts, and will only treat those animals that have a high worm burden; this will lead to lower chemical use on the farm, and will benefit the local bats.

8.3 Landowner advisory visits:

Landowner visits were a key part of disseminating tailored information to landowners and farmers.

950 visits took part during the delivery phase of the project. 75 in-depth farm reports were produced where appropriate for farmers to keep as an ongoing point of reference and feedback in the form of ongoing discussions, emails and sign posting followed up visits.

To support the site visits and the advice given during them, we produced a series of management guides available here: http://devonbatproject.org/downloads-page/ and available as printed



handouts to provide a more 'generic' point of reference for farmers and land managers and which will be available online beyond the end of the project.

One of the farm advisers qualified as a 'Registered Animal Medicines Adviser' and subsequently provided detailed training and advice on sustainable parasite management, an area of the project which gained significant momentum in the final 2 years. Over two-thirds of the farmers who received this advice claimed to have subsequently changed their worming regimes to be more dung beetle (and therefore bat) friendly.

Aim: Enable farmers and landowners to secure funding and support that ensure bat habitats are managed, restored and created across whole landscapes

The majority of the targets for this aim were far exceeded. Most of these targets were achieved through the implementation of Countryside Stewardship agreements. In total the project supported over 90 CS agreements leveraging in approximately £1.9 million into the local farming economy. Targets were also met through the highly successful 'BatWorks' grant scheme as well as other voluntary measures where landowners were inspired to undertake bat friendly habitat management without any further financial incentive.

Activity	Original targets	Project outputs
Target habitats restored and in	1384 ha	1859ha
positive management		
Grassland habitat re-creation (change	110ha	112ha
of land use)		
Woodland habitat re-creation (change	95ha	106ha
of land use)		
Farming and wildlife champions	Minimum of 11	Champions being worked with
established		across each area
Hedges in favourable management	200km	368km
(km)		
Hedges restored (km)	30km	39km
Positively influence land use change	175km	177km
next to watercourses (km)		
Positively influence management of	23	43
important road verges with		
community support (number)		
Capital works scheme delivered	A minimum of 25 capital	63 grants awarded
	works projects	
Candidate County Wildlife Sites	149 County Wildlife Sites	72 County Wildlife Sites,
surveyed and proposed for CWS	surveyed & candidate sites	Unconfirmed Wildlife Sites &
designation panel	presented for panel	proposed County Wildlife Sites
	assessment	surveyed

The project had a large reach across the project sustenance zones with a high percentage of land holdings influenced. 95% of landowners involved with the project stated that they had taken up bat friendly habitat management as a result of their involvement.

8.4 Capital Works Scheme (BatWorks and Trees for Bats)

The Project had a target of 25 diverse capital grants schemes. The project eventually achieved 63 completed projects known as 'Batworks' to the value of approximately £68,988, but when combined with in-kind contributions and match funding the total value of these Batworks was £187,217.



On approval of a BatWorks application, land managers are required to agree to a 10 year management plan and legal contract with the project to ensure that the works are sustained well into the future.

Total contribution of Batworks funding	£68,988
Total landowner cash contribution to projects	£57,594
Total in-kind contribution to projects	£60,635
Total overall value of Batworks	£187,217

Figure 3: total BatWorks funding allocated during project

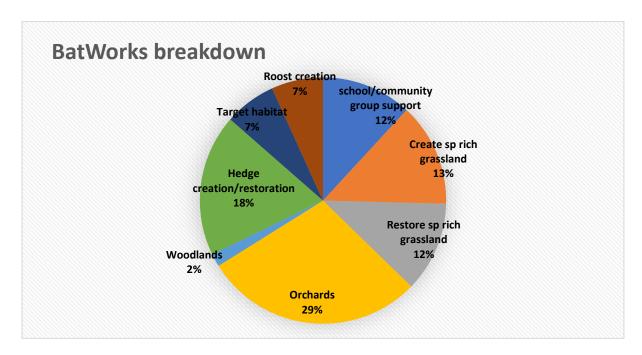


Figure 4: the different type of project funded through BatWorks

The high proportion of orchards created/ restored through BatWorks is largely due to the difficulty of accessing Countryside Stewardship funding for creation and restoration of orchards. This was a great way for the project to plug a gap in funding availability for a habitat which is highly beneficial to greater horseshoe bats.

8.5 Trees for Bats

In the winter of 2019/2020 the bat project teamed up with the local charity *Moor Trees* and *The Woodland Trust* in order to plant hedgerows and small areas of woodland within the project area. In total through this initiative 1.5km of new hedgerow was established and 1.55ha of new woodland was planted across 21 sites. This was perfect for small farms not wishing to enter into a Countryside Stewardship Scheme or only wishing to plant small areas of woodland (up to half a ha) or hedgerow (up to 100m)

8.6 County Wildlife Site Surveys

The original target of 149 surveys was reduced to 70 to reflect the time, skills and expertise required to undertake these surveys. Originally it was hoped that these surveys could be undertaken by volunteers recruited by the project, however it was recognised that this was a very challenging ask for volunteers and therefore the project's advisory officers and a sub-contractor from Devon Biodiversity Records Centre undertook the majority of these surveys:



Survey type	Number	Outcome
County Wildlife Site surveys	25	All 25 sites were confirmed as still being of CWS standard
undertaken		
Unconfirmed Wildlife Site surveys	39	Of these 39 sites, 14 were subsequently designated as new
undertaken		CWS. The remaining UWS sites were either found to be of
		insufficient quality, or were subject to land ownership
		issues which precluded CWS designation at the current time
Proposed County Wildlife Site	8	6 of these sites have now been designated CWS; the
surveys undertaken		remaining 2 sites have not yet been designated due to
		issues around land ownership and selection criteria

As a result of the work of the project 20 new sites have now been designated as County Wildlife Sites. These site designations help to formally recognise and improve our understanding of important habitats in the project areas, as well as ensuring that these key habitats are flagged up in any future planning applications in the locality.

8.7 Challenging targets in this Aim

Activity	Aim	Outcome
Reinstate favourable grazing	45 grazing links	10
regimes through Grazing Links	agreements facilitated	
Section 106 / Biodiversity Offsetting projects facilitated / delivered	9 offsetting projects facilitated/delivered	Target out of our control, likely to be just 1 possibly 2 offsetting projects. Financial target of £100,000 unlikely to be met
Pilot hedgerow management wood fuel initiatives	Local hedge wood fuel initiatives supported by DGHBP	Target will not be met due to no initiatives being set up for the project to support

The challenging targets here were largely out of the hands of the project team and the reasons why they could not be met are outlined below:

Reinstate favourable grazing regimes through Grazing Links: This target was severely hampered by the issues associated with TB and restrictions on cattle movement. Where the project was successful, we managed to help secure improved infrastructure for land without grazing and find a willing landowner with stock to come on site. Working with the Avon Valley Project to ensure grazing links took place helped to ensure that, although not the full number was achieved, those that did were well supported and successful.

Section 106 / Biodiversity Offsetting projects facilitated / delivered: this target was outside the control of the delivery team, with very few opportunities for offsetting and securing section 106 funding available at the time.

Pilot hedgerow management wood-fuel initiatives: it was hoped, when the project was set up, that hedge fuel initiatives would start up, however this did not happen and so the project was unable to provide support for these projects, which unfortunately did not yet exist.





9. Adapting to COVID-19 in final year

During 2020, the final year of the DGHBP the impact of COVID-19 on the activities of the project was felt between mid-March and the end of the project in January 2021.

During the period of 20 April to 22 June 2020, the project team went on 'furlough leave', and the DGHBP was extended to compensate for this period of time into the middle of January 2021, later extended until the end of January 2021.

The extension period had some benefits; for instance the Devon Bat Project was able to continue into October rather than finish in September as initially planned. 3 final autumn/winter BatWorks could take place and all website work and report writing could be undertaken during the colder months when other work was quieter.

10: Legacy and next steps

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10.1 Community Engagement Legacy

Area of project	Legacy work secured
Bat Festival	'Go Bats' idea, promoting daily event during September in the future by partners.
Devon Bat Survey (DBS)	Incorporated into the Saving Devon's Treescapes project from autumn 2020. Further funding being sought to continue this work more widely.
Anabats	These will be available for loaning out to partners/community groups. There will be some costs of servicing kit and administrating delivery and collection.
Bat Beacons	Static ones remain at Berry Head and Donkey Sanctuary and one of the mobile beacons will now be kept by the North Devon Biosphere team. The information stored on the bat beacons has been uploaded to the website and available to anyone for at least 5 years after the end of the project.
AQA awards	Tamar Valley AONB will continue to offer this, delivering it through other projects.
Events	Training has equipped people with the information they need to continue; any remaining merchandise items have been distributed amongst partners/community groups.
Bat Buddy Award	Now online so that schools in Devon and nationally can get involved.

Bat Friendly Community Award	It is not practical to continue to award this but many useful resources will be available via the website.
	North Devon Coast AONB will continue to support Bat Walks with Braunton Countryside Centre.
	East Devon AONB will continue to support Bat Friendly Beer, Bat Festival, East Devon Farmers group.
	Clinton Devon Estates will support Bat Festival, practical events, Bat Friendly Beer. Hedge management during the winter months.
	Tamar Valley AONB will engage with making GHB information available, continue to support Bat Project (Bat Walks, Bat Talks, annual Wildlife Weekend), Bat Cam at Tamar Trails, support volunteers.
Communications	DWT will be responsible for the website & social media accounts, so that even if they are not active, they can potentially be brought back into use at some point in the future. DWT/partners can promote future bat events e.g. Bat Festival, #GoBats. BCT has run with BatFest 2020 and can link to this during future years. The website is available for use as one stop shop for information – downloads and resources, the online Bat Buddy Award, details of partner organisations and a record of the project.

10.2 Land Management legacy

Land managers	450 land managers engaged with DWTs landowner advice team.
Over 90 CS agreements	These agreements will ensure bat friendly practices continue for at least 5 years from the start date of these agreements.
10 land management handouts	These management guides are now available on the bat project website for partners and others to access for at least 5 years beyond the end of the project.
BatWorks	Roost creation and habitat creation projects secured for at least 10 years. A programme for checking the roosts has been created which will ensure ongoing contact with BatWorks asset owners.
Parasite management	Increased the profile for the impact of livestock wormers on dung beetle populations. As a result of influence by the project, the VMD (Veterinary Medicines Directorate) are being lobbied.

10.3 Research Legacy

Devon Bat Survey	This project has doubled the GHB records held at the Devon Biodiversity Records Centre and increased the barbastelle records by 800%. This will help ensure bats are taken into account in planning decisions across Devon due to increased data availability.
PhD work	The work undertaken by Domhnall Finch to create a new predictive modelling software (Circuitscapes) will hopefully be adopted by planners to help inform development decisions.





10.4 Lessons learnt

The project has been an all-round success, raising the profile of the Greater Horseshoe Bat across the County and bringing together people working across Devon to share resources and expertise.

There were some key lessons learnt during the development and delivery of the project that should be reflected upon and incorporated into future project:

Some positives to learn from

Farmer workshops	Holding a workshop focusing on Countryside Stewardship schemes for farmers in an easy-to- access location at the start of each year was a great way to initiate new contacts, brush-up on the latest agri-environment scheme changes and promote the work of the project. The bat project held a workshop at the Dartmoor Lodge in February/ March from 2017-2020 and at each event approx. 30 land managers attended and this led to Stewardship schemes being worked up.	It is recommended that farm advisory projects aim to run similar workshops early in the year for farmers across project areas in the future, promoting through partners (Natural England were particularly useful with this, although hindered by GDPR constraints later on).
BatWorks	Having a capital grants pot is an important element in engaging with landowners and making things happen on the ground. Having a Task and Finish panel to assess the applications also worked very well.	Future land advisory projects should continue with this approach.
Devon Bat Survey	A great citizen science project which has generated a huge depth and breadth of bat records across Devon.	This should continue either as a standalone project or as part of future bids (the survey can even now be used for picking up evidence of small mammals such as dormice and crickets).
Facilitation Fund	Despite some negative aspects (e.g. no option of 1-2-1 site visits) the Facilitation Funds have represented useful ways for the project to engage with groups of landowners, including many who may otherwise be difficult to talk to.	Future land advisory projects should look for opportunities to engage with established farmer groups or possibly set up new ones where appropriate.
Project duration	Gaining funding for 5 years delivery was great in that it gave the project time to build trust and develop meaningful relationships with landowners and community groups, and allowed a real sense of momentum to be achieved over the course of the project. There is always more to do though!	Recommend future projects are conceived as long-term initiatives; the longer the better to achieve significant positive outcomes.
Partnership working	Working as a partnership of different organisations helped to extend the project's reach and influence, and there were several great examples where this partnership working helped to achieve significant outcomes e.g. working with EDAONB and FWAG SW on the East Devon Farmers Group to engage more effectively with landowners in this part of the county and pass on the GHB messages.	Partnership working should be encouraged to help any future projects reach a wider audience and to utilise a broader range of skills and experience from project staff and partners.



Some negatives to learn from

Area of project	Issue	Future recommendations
Devon Bat Survey	DBS was a very time-consuming part of the project to oversee, and the requirement for a survey assistant and key budget requirements such as the cost of postage was not initially factored into the budget at the start.	We now have information on the ongoing costs and time needed to undertake the work in the future so that this can be more accurately reflected in future funding bids (in 'How to run Devon Bat Survey' and 'Ongoing costs of Devon Bat Survey')
County Wildlife Site surveys (CWS)	CWS surveys are complex and require knowledgeable people with good botanical skills and an understanding of land management. The initial plan for these surveys to be undertaken by volunteers was not considered feasible in the end.	In future projects, unless skilled, reliable volunteers are already available, this shouldn't be attempted unless ongoing training of volunteers in surveying is also a target of the project; or budget should be included to pay contractors/DBRC to undertake this as part of the project.
Roosts	There were no specific targets for roost creation or improvements and increasing understanding of roosts.	This should be a larger part of the aims of a future bat project.
AQA awards	Very time-consuming, the team weren't able to support people as much as would have liked to, due to time constraints.	Needs a whole programme of separate training sessions to fully implement. Ideally Tamar Valley AONB with other partners would have taken this on (as well as approving the awards). It's another project in itself really.
Bat Beacons	While the roll up displays are useful, relatively cheap and portable, the very large ones were not as it turned out no-one had space for them. Also the touchscreens were very expensive, very heavy to transport, will become obsolete and can break down. Sometimes left un-used in venues. Logistics of transporting them entailed days of staff time. No really good way to ascertain the use by the public apart from some anecdotal evidence.	Costs of IT support need to be included. Not good value for money at £5000 per Bat Beacon. Engage community and volunteers before putting in a new funding bid, canvas opinion – ask them what they would find useful and meaningful in their own area.
Communications	Social media is an increasingly important tool for projects, especially post- Covid.	Making use of platforms such as Instagram, Tik Tok as they arise. Include Comms staff time in future projects rather than relying solely on project staff to manage social media
Overall	Large number of diverse targets which led to some target chasing at different points of the project, and also meant that there was less flexibility to follow up on emerging themes through a long term project e.g. roost creation, as there was too much pressure to deliver elsewhere.	Be clear during the development of a project which are the primary, and which are secondary targets that are desirable, but not essential to achieve. Once it is funded, it is harder to drop those secondary targets, which could still be achieved, but might not be vital to securing the funding in the first place.





11. Acknowledgements

Thank you to Devon Wildlife Trust for hosting and underwriting the project and ensuring that, alongside the project partners the project was successfully delivered and well publicised.

11.1 Funders

Main Funder: National Lottery Heritage Fund

29th May 1961 Charitable Trust The Halpin Trust

D'Oyly Carte Charitable Trust The Hawthorn Trust

Disney Conservation Fund The Keith Ewart Charitable Trust

Dr and Mrs Alfred Darlington Charitable Trust The Linley Wightman Shaw Foundation

Environment Agency The Spear Charitable Trust

Ratcliff Foundation The St Mary's Charity

Sir John and Lady Amory's Charitable Trust West Devon Borough Council

The Adrian Swire Charitable Trust Wildlife Acoustics (in kind)

The Clark Bradbury Trust

11.2 Partners

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Bat Conservation Trust FWAG South West Blackdown Hills AONB Natural England

Clinton Devon Estates

North Devon Biosphere Reserve

Devon Bat Group

North Devon Coast AONB

Devon Biodiversity Records Centre

South Devon AONB

Devon Biodiversity Records Centre

Devon Communities Together

Devon County Council

South Devon AONB

Tamar Valley AONB

Torbay Coast and Co

Devon County Council Torbay Coast and Countryside Trust
Devon Wildlife Trust (lead partner) University of Sussex

East Devon AONB Vincent Wildilfe Trust

11.3 Land Managers, Volunteers and Communities

Thank you to the hundreds of land managers who took part in the project and made changes to their habitat management including planting new hedges, creating wildflower meadows and even having whole new bat roosts built on their land. Thank you to the thousands of volunteers who gave up their time to learn, enthuse, research and get involved in all things bat. Thank you to the fantastic people who have taken bats into the heart of their communities and will continue flying the flag for greater horseshoe bats and other wildlife long after the project has finished. And a final thank you to the project team and staff at Devon Wildlife Trust for ensuring the successful delivery of this project.





12 Appendices

Appendix 1: Partner summaries of 3 key highlights and taking forward the work of the bat project from final 'celebration event' in December 2020

Partner	Highlights	Future plans
lan Egerton, DBRC	 CWS now better mapped Habitat data has helped inform and to fill gaps Surveyors at DBRC better informed as a result of the work with the project 	Some of the citizen science aspects can be taken forward by DBRC
Dave Edgcombe, NDCAONB	 Community engagement has been brilliant particularly through bat walks (had over 50 people) Audio pens (talking trail) and bat viewing platform at LNR at Braunton have been a big success as have way marked routes with distinctive way markers Instilled a sense of pride of the GHB in the area 	 The bat viewing platform is great for keeping awareness high of bats and for future engagement Improved provision for roosts as part of planning development advisory role of AONB Upsurge in interest from planners, and more comments from the AONB as a result. More lighting plans will now be in place
Fiona Mathews and Domhnall Finch, University of Sussex	 Rock Farm and Buckfastleigh roosts now doing very well but need more information about others. Need to work at landscape scale Circuitscapes and other research has been greatly supported through the project (traffic noise) Research group has been really useful for sharing info 	 Further development of the Circuitscapes model Papers to be published on GHB food sources Would like to continue to be involved in a research group
Roger English, SDAONB	 Devon Bat survey has been great, brilliant for data generation and has raised profile of bats Project has sparked an interest in GHBs across the area Importance of bringing research and land management together at a landscape scale DBS has revealed lots but also shown there is a lot left to cover within SDAONB and they are keen to continue work 	 Taking forward GHBs as their special species through Colchester Declaration with a commitment to work on roosts Setting up an advisory network Looking at extending work to benefit all bats Interested in Kitley area Continue to work at a landscape scale across AONB and extend beyond the sustenance zones



Sarah Jennings DCC	 Profile of the project has been great Has linked all the aspects of GHB work together Pleased with community engagement and land management aspects 	 Helping to take the research group forward and incorporate with existing SH SAC group for example Take roost survey work forward Looking at how best to spend funding from planning work for future GHB related work, particularly roosts Kitley should hopefully now be incorporated into SH SAC Nature Recovery Maps - GHBs are a priority Need to also consider other bat species which are critically important especially GLE, Bechstein's and Barbastelle
Gary Rumbold FWAG	 Strength of partnership has been fantastic and a pleasure to work with Community engagement achievements and figures have been outstanding It has been more than about GHBs - about people, communities and other wildlife too On a personal level, seeing the Berry Head Bat Beacon with his son was really inspiring 	 FWAG advisers have been skilled up and can better incorporate advice FWAG are offering KS2 education programme and will include bat information
Kate Ponting, Clinton Devon Estates	 Community engagement has been a huge success and Clinton has achieved a great deal in Beer, facilitating the Bat Friendly Beer work which has everything now in place to continue for the future Has been great for Clinton Devon to link with organisations and businesses and to develop a calendar of events and wildlife activities Pleased the legacy has been considered from the start of the project Great to hear children in school tell what they have learnt 	 Ongoing work with schools through bat buddy award Future work with Saving Devon's Treescapes Continuing with Bat Friendly Beer
Valerie Darwall/ Lesley Strong TVAONB	 Enjoyed partnership work with the project and the project staff Project has helped deliver TVAONB aims 	 Tamara Project will be continuing the farm advisory work and build on GHB engagement Would like to continue with community and research work Bat trail will continue to be used into the future Will incorporate GHBs in NRN and ELMS





	 Want to ensure knowledge gained continues across AONB Impressive number of people engaged Great to have harnessed local energy and enthusiasm, now feel duty bound to build on that Left with high quality resources 	
Sarah Butcher DBG	 Real pleasure to be involved since conception Took part in two task and finish groups 	Looking forward to taking up baton to next stage
Pete Youngman EDAONB	Little Farm Roost creationBat Friendly Beer	 Continue working with the communities and land managers of East Devon Continue the Facilitation group