# Final Project Report (to be submitted by 20th September 2018)

## Instructions:

- Document length: maximum 10 pages, excluding this cover page and the last page on project tags.
- We welcome the submission of Annexes (i.e. bachelor or master thesis, references, species lists, maps, drawings, pictures) to further HeidelbergCement's understanding and future use of your findings, however they will not be reviewed by the Jury, and we kindly ask for these to be sent separately to the National Coordinators.
- Please use the attached template for species data collected during the project and submit with the project report.
- Word/PDF Final Report files must be less than 10 MB.
- If you choose to submit your final report in your local language, you are required to also upload your final report in English if you wish to take part in the international competition.
- To be validated, your file must be uploaded to the Quarry Life Award website before **20th September** 2018 (midnight, Central European Time). To do so, please log in, click on 'My account'/ 'My Final report'.
- In case of questions, please liaise with your national coordinator.
- You should not publish additional private information in your final report (e.g.: address, day of birth, email-address, phone number), just complete the categories we ask for below under "Contestant profile".

The final reports should comprise the following elements:

**For research stream projects:**

- Abstract (0,5 page)
- Introduction :
    - For projects that are building upon a previous project, write a summary of actions that were already completed in the previous project.
    - Project objectives
- Methods: a detailed description of the methods used during the project is required.
- Results: the results of the project should be outlined and distinguished from the discussion.
- Discussion:
    - Results should be analysed and discussed with reference to region/country taking into account other publications.
    - Outline the added value of the project for science and for the quarry / company.
    - Recommendations and guidance for future project implementation and development on site is requested. Where possible, please mention the ideal timing and estimated costs of implementation.
- Final conclusions: a short summary of results and discussion.

**For community stream projects:**

- Abstract (0,5 page)
- Introduction
    - For projects that are building upon a previous project, write a summary of actions that were already completed in the previous project.
    - Project objectives
    - A short description of the site and the team members and the targeted audience of the project.
- Actions and activities: a detailed description of planned or implemented actions and outreach activities done to elaborate the project, list of stakeholders involved.
- Discussion:
    - Project teams should discuss the pros and contra and illustrate experiences.
    - Outline the added value of the project for biodiversity, the society and the quarry / company.
- Deliverables: practical implementation and development recommendations of the project are required. Where possible, please mention the ideal timing and estimated costs of implementation.
- Final conclusions: a short summary of the project findings and discussion.

## 1. Contestant profile

| | |
|---|---|
| Contestant name: | **Mark Elsoffer** |
| Contestant occupation: | **Conservation Volunteer / TMBG Secretary** |
| University / Organisation: | **Tice's Meadow Bird Group** |
| Number of people in your team: | **25** |

## 2. Project overview

| | |
|---|---|
| Title: | **Tice's Meadow Biodiversity Trail** |
| Contest: (Research/Community): | **Community** |
| Quarry name: | **Farnham Quarry (Tice's Meadow)** |

## Abstract (max 0.5 page)

The Tice's Meadow Bird Group, the community volunteers at Tice's Meadow Nature Reserve, have built a Biodiversity Trail as their entry for the 2018 Quarry Life Awards.

The 1.5 mile long self-guided trail, following a way-marked route, takes in a wide cross section of habitats and site features. Six new benches, 5 bespoke interpretation panels, 16 way-marker posts and a combined site map and noticeboard at the main entrance have been designed, bought and installed. A site leaflet has also been designed, printed and distributed to local tourist information points and groups of visitors.

Signs have been erected at each site entrance, detailing the site rules and providing a map for visitors to use. A large sign has also been erected at the main entrance to entice passing members of the public to visit the site.

An innovative Swift Tower, containing nesting space for 11 pairs of Swifts, has been erected in the Meadow, along with 2 new Barn Owl nest boxes. A Woodland Feeding Station has been built to provide supplemental feeding for the woodland birds. A number of new bug hotels have been built in the reed beds, and a new hibernacular built for reptiles.

Site stakeholders and national bodies were closely liaised with during the design stage, and the local community was heavily involved in the delivery of the project. Educational opportunities have been developed and exploited at each stage of the project.

Knowledge of the site's biodiversity has increased as the project progressed, with many new visitors attracted to the site and recording and reporting the wildlife they encounter.

The Tice's Meadow Biodiversity Trail has been a massive success, with increased numbers of visitors to site, increased visitor satisfaction recorded, more new habitats created for the site's wildlife and a welcome increase in the recording and reporting of site biodiversity. We believe we have succeeded in our mission of "*connecting the quarry with the local community*".

## Final report (max 9 pages)

# 1. Introduction

### 1.1 Project Objectives

The objectives of our project were to:

- Attract new visitors to the site, engage with them, educate them and encourage them to return.
- Attract new volunteers to the Tice's Meadow Bird Group.
- Provide the site's wildlife with new habitats to feed in, and new breeding and hibernation sites.
- Provide new opportunities to monitor and record the site's biodiversity.

**NB:** The nature of the project and it's objectives were decided upon following a wide-ranging online survey of visitor opinions, and analysis of their feedback. The most requested improvements (after path improvements) were seating, site information, way-markers and a map.

### 1.2 Site

Tice's Meadow is a newly developed 150 acre nature reserve on the site of the former Farnham Quarry, located between Badshot Lea and Tongham in Surrey, on the southern outskirts of Aldershot. The habitats on site consist of a mosaic of open water, gravel islands and scrapes, reed beds, scrub, woodland, ephemeral ponds and wet and dry grassland. The site is widely considered to be one of the best inland sites to watch birds in the southeast of England, with 189 species of bird recorded to date.

The site is owned by Hanson, and managed by a committee consisting of Hanson, Tice's Meadow Bird Group, Blackwater Valley Countryside Partnership, Badshot Lea Community Association and Surrey County Council.

### 1.3 Team Members

The project was delivered by the Tice's Meadow Bird Group, a non-incorporated voluntary association consisting of a mix of bird watchers, naturalists and local residents, all of whom care deeply about the nature reserve and want to see it flourish as a resource for the local community.

Our team members range in age from 8 months to 80 years, have a wide variety of backgrounds, and are drawn to the site from as far away as Norfolk and Somerset.

Our core team of volunteers numbers around 12, and we have been supplemented on this project by a number of new members, as well as Duke of Edinburgh Award students and Cub Scouts.

### 1.4 Target Audience

The target audience for the project are the users of Tice's Meadow Nature Reserve, as well as those members of the local community who have never visited, or even heard of, the site before (especially young children and families).

Visitors with disabilities and impaired mobility have been specifically catered for. We have consulted closely with the local council and the “Birding for All” organisation to ensure all physical additions meet the requirements of the Disability Discrimination Act, and (where possible) accepted best practice.

## 2. Actions & Activities

### 2.1 Implemented Actions

Our team of dedicated volunteers have built a 1.5 mile long self-guided trail around the nature reserve, along a way-marked route (with 16 new way-marker posts), taking in a wide cross section of habitats and features.

Six benches have been installed to provide places for visitors to stop and enjoy the site, whilst also meeting the requirements of visitors with limited mobility. The benches have been carefully sited at popular view points.

The new way-marker posts and benches are all fashioned from sustainably sourced Surrey grown Oak.

Five bespoke interpretation panels have been designed and installed, affording visitors the chance to identify the wildlife on site, and educating them on the site's biodiversity and importance to the local area. The interpretation panels are entitled: Butterflies, Reptiles & Amphibians, Woodland Birds, Meadow Habitat and Birds of the Meadow & Hedgerow.


*Illustration 1: The New Look Entrance*

A combo-unit containing a large site map, interpretation panel and noticeboard has been erected at the main entrance to welcome visitors to the site, allow visitors to orientate themselves, and display TMBG notices.

The interpretation panels and combo-unit are all constructed with steel frames, and printed on GRP – a long lasting, UV stable, graffiti/scratch resistant material.

A large sign has been placed on the main gate to entice passer-bys to visit the site. Signs have also been erected at each of the site's other entrances, detailing the site rules and providing a map for visitors to use.

Following consultation with disabled visitors and “Birding for All”, we ensured that the trail starts and finishes at an accessible RADAR gate and that the benches were spaced along the route at the recommended intervals to cater for visitors with limited mobility. Wheelchair user level viewing slots were added to the woodland feeding station screen, and the interpretation panels were positioned so as to be readable by wheelchair users.

A site leaflet has been designed, printed and distributed to local information outlets. The leaflet contains a site map, details of how to get to Tice's Meadow, contact details and information about the site's wildlife.

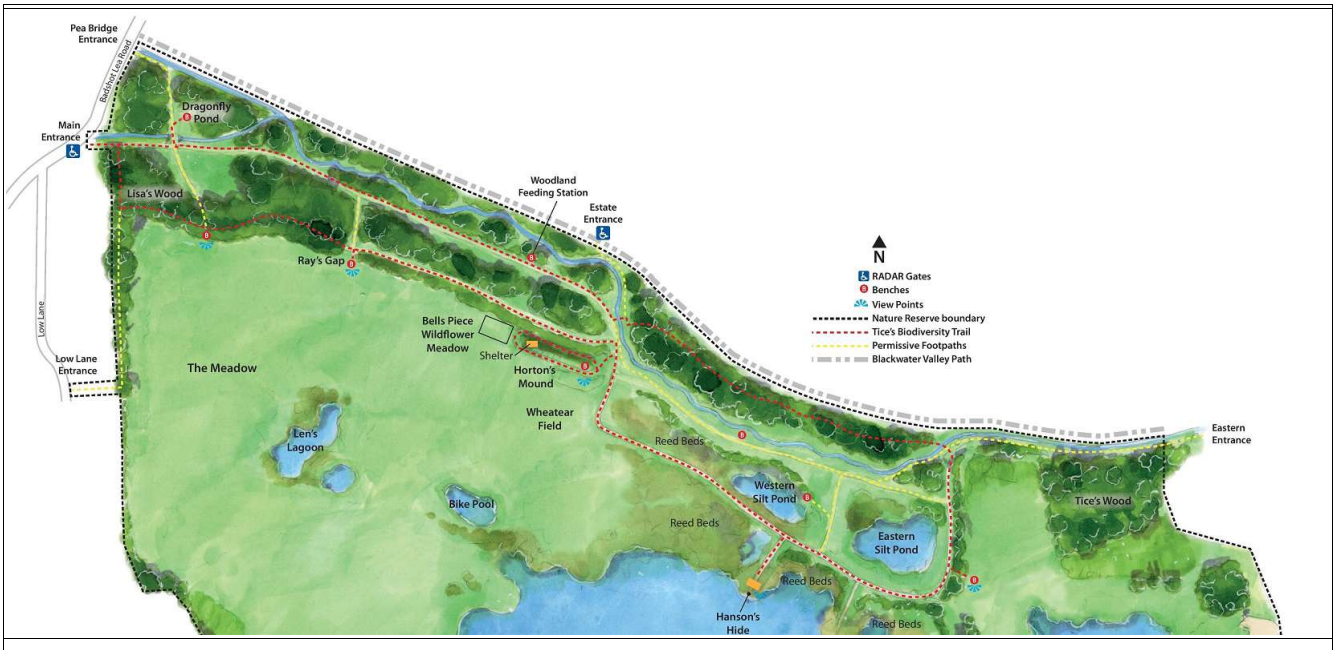


*Illustration 2: The Biodiversity Trail Map*

A Swift Tower containing nesting spaces for 11 pairs of Swifts has been erected on an 8m high telegraph pole in the Meadow, along with 2 new Barn Owl nest boxes.

*Illustration 3: Swift Tower Nest Box*

The Swift Tower was built to plans supplied by Action for Swifts, and contains innovative pre-lined nesting cups and a solar-powered calling device that plays Swift calls on a timer, every morning and evening during the breeding season to attract new tenants.

The Swift Tower has been sited according to expert advice, and is viewable from the Biodiversity Trail.

Swift Towers are a relative new development in the UK, having been successful on the continent. Results from our tower will be communicated to Action for Swifts and the BTO, contributing to the scientific knowledge of artificial Swift nesting structures.

A number of new bug hotels have been built in the reed beds, and a new hibernacula built to provide a new artificial hibernation site for our resident reptiles.

A Woodland Feeding Station has been built to provide supplemental feeding for the woodland birds. It consists of a feeding area defined by a dead hedge, with a large viewing screen, bench, woodland birds interpretation panel and a number of bird feeders, bird tables and a drinking pool.

*Illustration 4: Constructing the Woodland Feeding Station*

Sustainable, recycled, upcycled and/or locally sourced materials were utilised in the project where possible. The benches and way-marker posts were made from sustainably sourced Surrey oak from the Surrey Wildlife Trust sawmill. The Woodland Feeding Station viewing screen was constructed from wooden decking fly-tipped following a traveller incursion on site. The Swift Tower nesting box was mounted on a recycled 8m telegraph pole donated by SSEN. The bug hotels were filled with donated broken pots and tiles, the bird feeders built from recycled materials and the hibernacula built solely from materials found on site.

Examples of our innovation in the face of adversity include the creation of non-flammable bug hotels (following a previous bad experience with flammable ones), construction of a vandal-proof steel bird table, and the building of the Woodland Feeding Station from wooden decking salvaged from a large scale traveler incursion on site.

Examples of our creativity include the re-use of salvaged materials in the Woodland Feeding Station, Swift Tower and bug hotels, and our improvements to the Swift Tower design.

Although a community lead project run by volunteers and “amateurs”, we ensured we adhered to best-practice and scientific rigour when delivering the project. We consulted with Action for Swifts and the BTO in the design of the Swift Tower in order to provide the best artificial nesting site for Swifts, and to increase the chances of its success. The BTO and Barn Owl Trust advised us on the design and position of the Barn Owl boxes. We consulted with the RSPB and the BTO with regards to introducing supplemental bird feeding on site, and have introduced the advised feeding regime and cleaning schedule. We followed plans supplied by SARG for the hibernacula, and located it to meet a need identified in the site's Amphibian & Reptile Monitoring Report.

### 2.2 Outreach Activities

Outreach into the local community is key to the continued success of the Tice's Meadow Bird Group and the nature reserve itself. The following outreach activities took place as part of the project:

- Our annual BioBlitz again attracted over 100 members of the public, and this year was combined with the site opening, with dignitaries and representative of national/international conservation bodies in attendance. Our Biodiversity Trail was open for the first time and was well used and appreciated by the visitors.
- The pupils from Badshot Lea Infants School painted a number of wooden butterflies and dragonflies which were then placed along the route of the trail for visiting children to enjoy discovering. The pupils were also given a guided tour of the new trail, enjoyed a bird ringing demonstration, and we have plans to work together more closely in future.
- A section of the new trail was used by members of the public during the Badshot Lea Village Easter Trail – bringing many new visitors to the site for the first time.
- Cub scouts from 2nd Aldershot and 5th Farnborough packs built bug hotels and placed them along the trail.
- Residents from Bells Piece (Leonard Cheshire Disability) Farnham continued to tend to their wildflower plot (a key stop on the trail) and were also given a guided tour of the trail.
- Guided walks along the new trail were given to the following groups: Surrey Bird Club, Farnham U3A, Milford U3A, 12th Farnham (Wrecclesham) Cub Scouts, 2nd Aldershot Cub Scouts, 5th Farnborough Cub Scouts, Aldershot, Fleet & Farnham Camera Club and Rushmoor Borough Council Conservatives.
- We attended the following events, giving a presentation of our work on site and our QLA project: Badshot Lea Infants School Fair, Surrey Bird Club AGM, Blackwater Valley Countryside Trust AGM, RSPB Hampshire Swift Awareness Day and Wellesley Woodlands BioBlitz.

*Illustration 5: Pupils from Badshot Lea Infants School Visiting Site*

### 2.3 List of Stakeholders

The following stakeholders were involved in the delivery of our project: Hanson, National Lottery Big Lottery Fund, Blackwater Valley Countryside Partnership, Blackwater Valley Countryside Trust, SSE Networks, PC Landscapes, Advanced Tree Services, Badshot Lea Infants School, Bells Piece (Leonard Cheshire Disability) Farnham, Action for Swifts, Surrey Bird Club, Surrey County Council, Badshot Lea Community Association, Farnham in Bloom, Army Ornithological Society, Royal Navy Birdwatching Society, British Trust for Ornithology, Barn Owl Trust, Butterfly Conservation Trust (Surrey Branch), Surrey Amphibian and Reptile Group and the Surrey Bat Group.

Existing relationships between the TMBG and other stakeholders have been strengthened by our QLA project. Our successful delivery of the project has lead to new funding opportunities for 2019 and the chance to build upon our work and extend the trail.

The new relationships we have developed during the delivery of our project will prove beneficial to the site in the future. For example, SSEN have already offered to donate and erect any more telegraph poles we need, and the Surrey Bat Group have recently donated £1,000 towards a new bat monitoring scheme on site.


*Illustration 6: Combined Team of TMBG Volunteers & SSEN Engineers Erecting the Swift Tower*

## 3. Discussion

### 3.1 Pros and Cons

**Pros**

Acceptance into the QLA, and the subsequent £2,000 seed funding from Hanson, was key to the TMBG receiving a grant from the National Lottery Big Lottery Fund for a further £8,000.

Working on our QLA project has been a very positive experience for our volunteers. New tasks, with immediately visible benefits and outcomes, have made a refreshing change to the sometimes down-heartening (but vital) task of scrub clearance that has recently taken up much of our time.

The project generated a large amount of positive publicity in the local press, raising awareness of the nature reserve amongst the local community, attracting many new visitors, and a number of new volunteers.

New biodiversity recorders have also been attracted to the site by the positive publicity, with their findings taking our pan species list to 1,254 species. An impressive 823 species were recorded during the project timeline, and reported to Hanson as part of the QLA process.

The project has enabled us to develop a rewarding relationship with the local school and a number of cub packs, including 2 new packs who were alerted to our work by the publicity we received about the project. We were able to provide them with outdoor learning experiences and a chance to undertake community volunteering, and in return our volunteers were revitalised by the children's enjoyment and enthusiasm.

The project will provide the potential for future educational benefit – we intend to foster our burgeoning relationship with the local infants school, and have recently approached the local secondary school. Educational materials specific to the site are being developed and will be rolled-out in 2019, with the possibility of a community hide at the Badshot Lea Village Hall and an outdoor classroom being investigated.

**Cons**

The project involved a large amount of work – we doubled the frequency of our volunteer work parties, and regularly held impromptu mid-week sessions. After discussion amongst the group, it is felt we may have been a little ambitious as to what we could deliver within the competition time-frame, although our ambition is also considered one of our strengths.

Despite the challenging work-load, the only proposed deliverables we failed to deliver were:

- The construction of a new viewing point for the Plant Yard and the re-profiling of the slope up to Horton's Mound (our main viewing point) to accomodate disabled visitors. We were restricted by the Site Management Committee to waiting until Hanson had suitable heavy plant on site to undertake the work, and unfortunately this opportunity has yet to materialise.
- The creation of wildflower planters flanking the main site entrance. The red-tape associated with placing structures adjacent to the public highway proved to be too much for the short time frame of the project. We are liasing with the Farnham in Bloom team and Farnham Town Council to expedite this in 2019.

### 3.2 Experiences

The experience of working on our project has been almost overwhelmingly positive. To have a defined and large project to work on, with clearly visible objectives and deliverables, has had a positive impact on the moral of our volunteers – a common theme of volunteer feedback has been comparing the work positively to the more onerous (but vital) willow clearance which we had been concentrating on.

Feedback from local residents and site visitors has also been positive. The new benches have been especially popular with older visitors and those with limited mobility. The Woodland Feeding Station has proven remarkably popular (with both the visitors and the wildlife) – so much so that we had to add an extension to it, and subsequently doubled the number of feeders, as there were so many visitors regularly using it.

The positive publicity generated by our project has also lead to an increase in volunteer numbers, as well as further outreach opportunities – 3 more cub packs are lined up for visits at the time of writing.

### 3.3 Added Value

#### 3.3.1 Biodiversity

The innovative Swift Tower provides nesting space for 11 pairs of Swift – part of a Blackwater Valley wide project run by the Blackwater Valley Countryside Trust to provide artificial nests for this much endangered species, and monitor the local Swift population. Due to the project, we were invited to have a display at the Hampshire Swift Day run by the RSPB and are being consulted with regards to the construction of 2 further Swift Towers in the wider Blackwater Valley.

The Woodland Feeding Station provides supplemental feeding for the woodland birds – this was much appreciated during the severe cold snap at the start of 2018 when site record numbers of Siskin, Chaffinches, Bullfinches, House Sparrows, Greenfinches, Dunnocks, Treecreepers and Nuthatches were recorded using it. Species such as Nuthatch, Treecreeper, Collared Dove, Bullfinch and Coal Tit have seen a significant increase in reported sightings, and an expansion in range, since the project began as they are attracted to the feeders.

The bug hotels provide foraging and nesting opportunities for invertebrates, and the hibernacula provides a hibernation site for Grass Snakes and Common Lizards in an area identified as requiring a hibernacula by the site Reptile & Amphibian Monitoring Report.

Publicity generated by the project has already attracted a number of new experts to visit the site for the first time, with a Diptera expert identifying 70 new species of fly for the site in his first visit! New surveys of the site's earthbound invertebrates, moths and meadow plants have also commenced thanks to the new visitors attracted by the project. All data collected is reported to national recording schemes, collated on our site database and reported to Hanson for inclusion in their biodiversity databases. Analysis of this data will assist in future management of the site, enhance biodiversity action plans, and contribute to the knowledge of quarrying ecology and wider national trends in species populations and distribution.

An increase in the connectivity between local residents and the nature reserve has led to more visitors, a wider understanding of the site's biodiversity, and can only be a positive for the environment in general as more people connect with the wildlife on their doorstep and begin to value a flourishing natural environment.


*Illustration 7: Volunteers & The New Hibernacula*

### 3.3.2 Society

Any increase in the connectivity between local residents and the nature on their doorstep can only be described as a positive for wider society due to the proven physical and mental health benefits of being outdoors in a vibrant natural environment.

There has been a noticeable increase in visitor numbers since our project commenced, with the knock-on effect of a greater number of new volunteers for the TMBG – we have now double the number of "core" volunteers than when we started the project.

Our project has provided inspiration to a number of other local volunteer groups: the Badshot Lea Bloomers have requested our assistance in the restoration and interpretation of the village pond, and the Moor Green Lakes Group are building a copy of our Swift Tower (with a 3rd planned for Frimley Gravel Pits).

Visitors to site have benefited from the self-guided trail taking them around the whole site, the benches providing areas to stop and rest and the interpretation panels educating them about the site's biodiversity.

*Illustration 8: Visitors on a Guided Tour at the Woodland Feeding Station*

### 3.3.3 The Quarry / Company

Our project has generated a considerable number of local press articles, and significant interest on our social media platforms, leading to positive coverage for Hanson, the QLA and the other project stakeholders.

The project has also saved Hanson money as they were committed in the site restoration plan to providing site interpretation panels and signage which we have now delivered at no cost to them.

The way we have built a thriving community-lead group of volunteers to deliver the project, and manage the site going forward, can only be a positive example to similar groups in other Hanson quarries undergoing restoration. A motivated and organised group of volunteers can save Hanson money in the restoration and aftercare periods following extraction by undertaking site management tasks which would otherwise have to be outsourced.

Should the Swift Tower prove successful, it could be easily rolled out at other Hanson sites.

The hibernacula design we used is superior to the existing ones on site built by a third party (which in the words of SARG are "not fit for purpose"). Our volunteers are now keen to replace them, saving Hanson a future cost.

The increase in the number of responsible visitors using the site has lead to a marked decrease in anti-social behaviour on site. Any such behaviour is now reported more quickly to us as our contact details are more visible on the new signs and interpretation panels. Less anti-social behaviour will lead to less remedial costs in the future for Hanson.

## 4.0 Deliverables

Our experience delivering this project has lead us to conclude that a motivated, well-run and enthusiastic team of volunteers is required to deliver a project of this scale.

It is recommended that the creation of a community volunteer group is added as a key target to each Hanson quarry restoration plan. Efforts should be made to set-up such groups before the extraction phase finishes, so that their input can be added to the site restoration phase. A representative of the group should sit on the site liaison and aftercare committees.

Support should be provided from a dedicated central point within Hanson for all the quarry volunteer groups. Help should be provided with issues relating to health & safety, insurance, networking, conservation, group administration and fundraising. This could be done in conjunction with existing national volunteer bodies such as Groundwork, The Conservation Volunteers or local Wildlife Trusts.

We also recommend that site signage, a way-marked trail and interpretation panels should be added to each Hanson quarry restoration plan where the restored quarry will be open to the public. The public's perception as to whether a site is just a parcel of land, or a thriving nature reserve, can affect their willingness to engage with, protect and watch-over the site.

Finally, we recommend surveying the local public's opinions as to what they would like a restored quarry to look like and provide for both themselves and the local wildlife before a restoration plan is finalised. Restoration plans should consider the results of this survey in order to ensure that a restored site is used and engaged with by local residents.

## 5.0 Conclusions

The Tice's Meadow Biodiversity Trail can only be considered an unqualified success which has positively changed the visitor experience, and provided welcome boosts to the site's biodiversity.

There has been a remarkable number of new visitors to site who have been attracted either by publicity of the project, or seeing the new signage as they pass by. This increase in visitor numbers has lead to an increase in volunteers for the TMBG, and a decrease in anti-social behaviour on site.

A common theme of visitor feedback is that the site now looks and feels like a nature reserve, and that they are therefore more likely to visit and engage with the reserve and wildlife.

The opportunity to expand our project for 2019 has already arisen (via an invite to enter the National Lottery's and ITV's People's Projects competition) and is being actively discussed amongst the site stakeholders. Options include an extension to the Biodiversity Trail to the site's eastern border and a new Sand Martin nesting bank.

We are very grateful to Hanson for the opportunity to enter the Quarry Life Awards competition, the support of all the stakeholders and the sterling efforts of our team of volunteers.

## To be kept and filled in at the end of your report

**Project tags (select all appropriate):**

This will be use to classify your project in the project archive (that is also available online)

Project focus:

- ☑Beyond quarry borders
- ☑Biodiversity management
- ☑Cooperation programmes
- ☑Connecting with local communities
- ☑Education and Raising awareness
- ☐Invasive species
- ☐Landscape management
- ☐Pollination
- ☐Rehabilitation & habitat research
- ☐Scientific research
- ☐Soil management
- ☐Species research
- ☐Student class project
- ☐Urban ecology
- ☐Water management

Flora:

- ☑Trees & shrubs
- ☐Ferns
- ☑Flowering plants
- ☑Fungi
- ☑Mosses and liverworts

Fauna:

- ☑Amphibians
- ☑Birds
- ☑Insects
- ☑Fish
- ☑Mammals
- ☑Reptiles
- ☑Other invertebrates
- ☑Other insects
- ☑Other species

# Annexes

A selection of photographs of the creation of our Biodiversity Trail, components of the trail, and visitors enjoying the self-guided walk.


*Illustration 9: The Main Entrance Map & Interpretation Panel*


*Illustration 10: The New Main Entrance Combo-Unit*





*Illustration 11: The New Interpretation Panels.*


*Illustration 12: The New Main Entrance Sign*



*Illustration 13: Volunteers Building the Biodiversity Trail.*

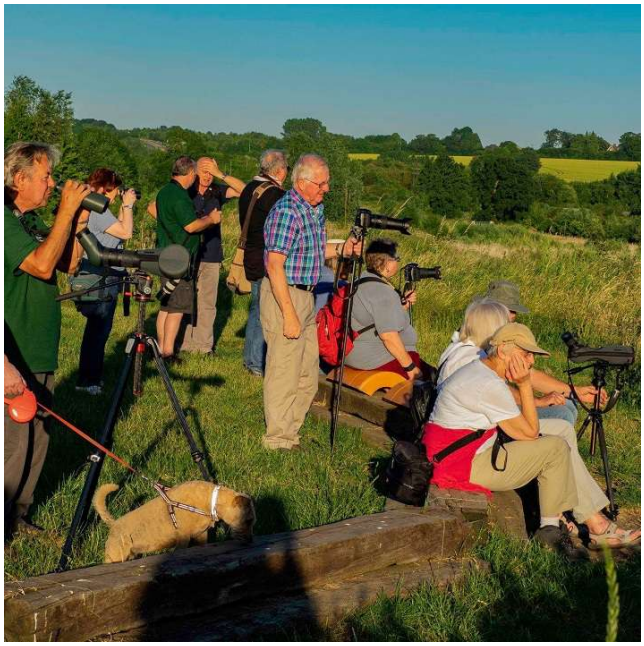

*Illustration 14: Visitors to Site Enjoyng the Biodiversity Trail.*