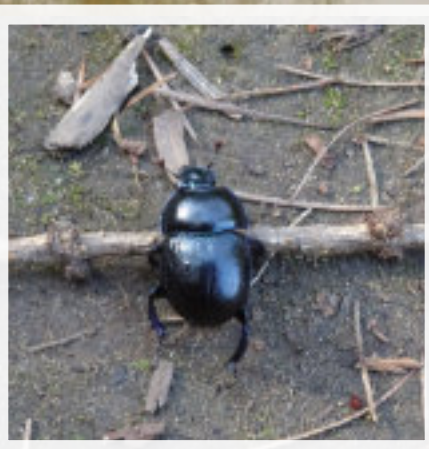
FORESTERS' FOREST

OUR STRONGHOLD FOR NATURE

Delivery Phase 2017-19

Halfway Interim Report



Foresters' Forest

HERITAGE FUND

Biodiversity Projects Partners:

Forest Voluntary Action Forum

Forestry England

Natural England

Gloucestershire Naturalists' Society

Butterfly Conservation

Gloucestershire Bat Group

rspb

Plantlife

Hartpury University and College

University of Worcester

The Wildlife Trusts

Gloucestershire Wildlife Trust

GCER

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CONTENTS

FORESTERS' FOREST

OUR STRONGHOLD FOR NATURE

INTERIM REPORT SUMMARY

The biodiversity projects that make up Our Stronghold for Nature are many and varied in reflection of the huge diversity of wildlife and habitats in the Forest. Popular with volunteers and attracting support from a wide range of partner organisations, the projects have so far shown to be full of opportunity for collaborations, inter-project links and optimising of existing good habitats.

Most biodiversity projects fall mainly within one of the four key ecological networks that make up the Forest of Dean's natural environment:

Forest of Dean ecological networks

WOODLAND

The "backbone" of the Foresters' Forest consists of blocks of woodland and scattered "park" style trees. and hedgerows.

Much woodland is secondary but with remnant ancient woodland flora. Notable, historic, veteran and ancient trees are scattered throughout.

Main projects:
Woodland Flora
Notable and ancient trees
Batscape

Also important for:
Butterflies
Birds
Veteran trees history
Ponds

WETLAND

Currently limited to small, distinctive areas of habitats of very high value to wildlife.

Elements include streams and rivers, sphagnum moss, mire, lowland raised bog, wet woodland and scrub, permanent and temporary ponds.

Main projects:
Ponds & pond life
Riverfly survey
Mire & moss survey

Also important for:
Birds
Batscape

OPEN HABITAT

A distinctive landscape feature linked to the industrial heritage of the Forest of Dean.

Elements include grazing pasture, woodland rides and glades, mine spoil and bare ground.

Main projects:
Birds
Conservation grazing
Reptiles
Deans Marvellous Meadows

Also important for:
Butterflies
Batscape
Ponds
Notable and ancient trees
Veteran trees history

RIDES AND CORRIDORS

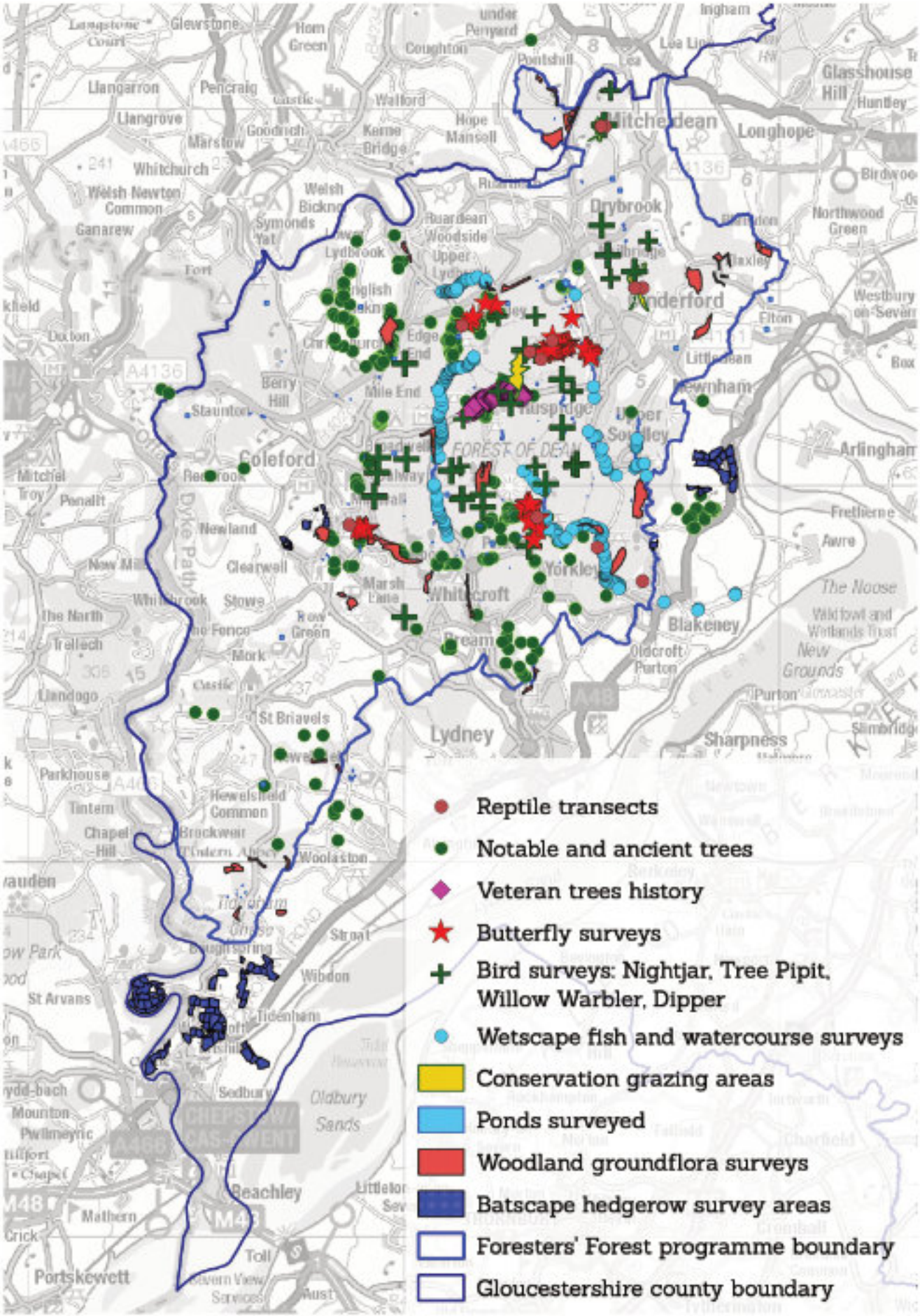
Rides, paths, cycle lanes and verges make up a network for wildlife as well as people, forming a home in itself to many species and linking it with vital feeding areas in adjacent habitats. Connecting corridors enhance the Foresters' Forest and support some of its rarest and most threatened species.

Main projects:
Butterflies
Veteran trees history

This category links to all the other networks and projects.

Foresters' Forest biodiversity project areas

The map below shows the extent of the main project activities so far:



OUR STRONGHOLD FOR NATURE
BIODIVERSITY PROJECT UPDATES

Woodland network

woodland flora

lead partner: Natural England

Background

The Development Phase of Foresters' Forest identified a need to find out where the most typical ancient woodland flora was concentrated and how it was faring compared with earlier surveys. In order to do this a list of 'axiophyte' or typical, habitat-specific plants was drawn up using national Botanical Society of Britain and Ireland (BSBI) guidelines.

The draft axiophyte list featured 91 plants, most of them typical of ancient or well-established woodlands. Volunteer surveyors looked at 28 sites and recorded where the axiophytes were found. The results were compared with a detailed botanical survey which was carried out in the same areas during the 1980s.

Right: Early Purple Orchid, a woodland axiophyte found in grassy rides and ancient woodland floors.

Delivery groundwork

Following the Development Phase surveys the Woodland Flora Project was refined to improve the axiophyte list and training sessions and encourage more volunteer involvement. The scope of the surveys was widened with the aim of surveying not just the known woodlands of interest from the 1980s survey but other sites too, such as Local Wildlife Sites thought to have potential for good axiophyte populations.

In order to prepare for further surveys a workshop was held in early 2017, bringing together botanists and volunteer surveyors to discuss the axiophyte list and how it might be improved. Amendments included marking plants found in the Wye Valley only, to help surveyors narrow down the identification of Forest of Dean species. To further help less experienced surveyors, the list was colour-coded to indicate difficulty of identification (red being more difficult).

The workshop led to 10 species being removed from the draft axiophyte list, 13 being added, and several being kept on the list for survey purposes but not on the official Wye Valley and Forest of Dean axiophytes list - e.g. Bilberry *(right)*.

Subsequent work by Gloucestershire Centre for Environmental Records refined the list and identified good candidate survey sites from known Local Wildlife Sites with ancient woodland habitat. Some more amendments were made following expert advice and volunteer feedback from training workshops; the current list is up to version 3.2.

The total number of plants on v3.2 comes to 94 - with room for other observations if interesting species are found which are not listed. An extra version using Latin plant names was produced for experienced surveyors:

GCER FORESTERS' FOREST

Woodland flora survey form	
Date:	
Recorder's name:	
Site name:	
Grid reference:	
Compartment no.:	

Tree cover:	
primary tree species:	
secondary species:	
other notable trees (e.g. groups of holly or hornbeam):	

Notes:	
	Species with a red ID are hard to identify and usually require confirmation by an expert
	Species with an amber ID may sometimes require confirmation e.g. when not flowering
	Species with a green ID are straightforward to identify provided conditions, and the season, are suitable
	Species of acid grassland, bog and similar, which may also occur in woodland, are marked in purple
*	These plants are on the axiophyte (special indicator) list for diverse woodlands in the Forest of Dean
#	These plants may have garden cultivars, subspecies or hybrids which are tricky to tell apart
W	These are all or mostly found ONLY in the Wye Valley, not the main Forest of Dean area
!	Bonus find! A possible local species, but not seen in the area for many years!

ID	English name	Scientific name	Abundance	Comments
!	Monk's-hood	*Aconitum vulgaris*		
*	Moschatel	*Adoxa moschatellina*		
*	Fragrant agrimony	*Agrimonia procera*		
*	Wild garlic	*Allium ursinum*		
*	Bog pimpernel	*Anagallis tenella*		
*	Wood anemone	*Anemone nemorosa*		
	Ling (common heather)	*Calluna vulgaris*		
*	Giant bellflower	*Campanula latifolia*		
*W	Spreading bellflower	*Campanula patula*		
*	Nettle-leaved bellflower	*Campanula trachelium*		
*	Narrow-leaved bittercress	*Cardamine impatiens*		
	Greater cuckooflower	*Cardamine raphanifolia*		
*W	Fingered sedge	*Carex digitata*		
*	Smooth-stalked sedge	*Carex laevigata*		
*	Soft-leaved sedge	*Carex montana*		
*	Pale sedge	*Carex pallescens*		
*	Thin-spiked wood-sedge	*Carex strigosa*		

(See Appendix 2 for a full copy of the survey sheet)

The latest version of the woodland flora survey checklist was made available as both printable .pdf documents and, from 2019, a mobile-ready online form using free Open Data Kit technology. The online form was designed to resemble the paper form and to be available both on- and off-line via the KoboToolbox website.

Key events and activities

- Spring 2017: Workshop and GCER analysis to create the axiophyte list, survey forms and background maps in preparation for training days and surveys
- Project contract meeting held 19/12/17
- April 2018: survey training workshop, 22 volunteers attended
- May 2018: preliminary reconnaissance surveys
- Spring - Summer 2018: site surveys by volunteers, Altogether 26 volunteers expressed an interest in taking part; 19 took part in surveys.
- April 2019: survey training event with Natural England and GWT staff, using Field Studies Council plant identification guides

Opportunities and challenges

The link between woodland flora surveys and other biodiversity projects was recognised at an early stage. - in particular the possibility of including within the survey some notes on the presence of veteran or ancient trees, ponds and other scattered features of interest relevant to other projects. For this reason, some plants not on the axiophyte list but typical of important associated habitats - such as heathland species - were included on the woodland flora survey sheet, along with a section for recording the presence of 'character' trees, reptile sightings and other features of interest.

Staff changes in the lead partner organisation meant that this project had two changes of project leader, with no-one in overall charge during the main 2019 survey season and most results limited to the 2016 (development phase) and 2018 seasons. Despite this, the groundwork for a useful survey project has been put in place and there is scope for more outputs over the final two years of the project.

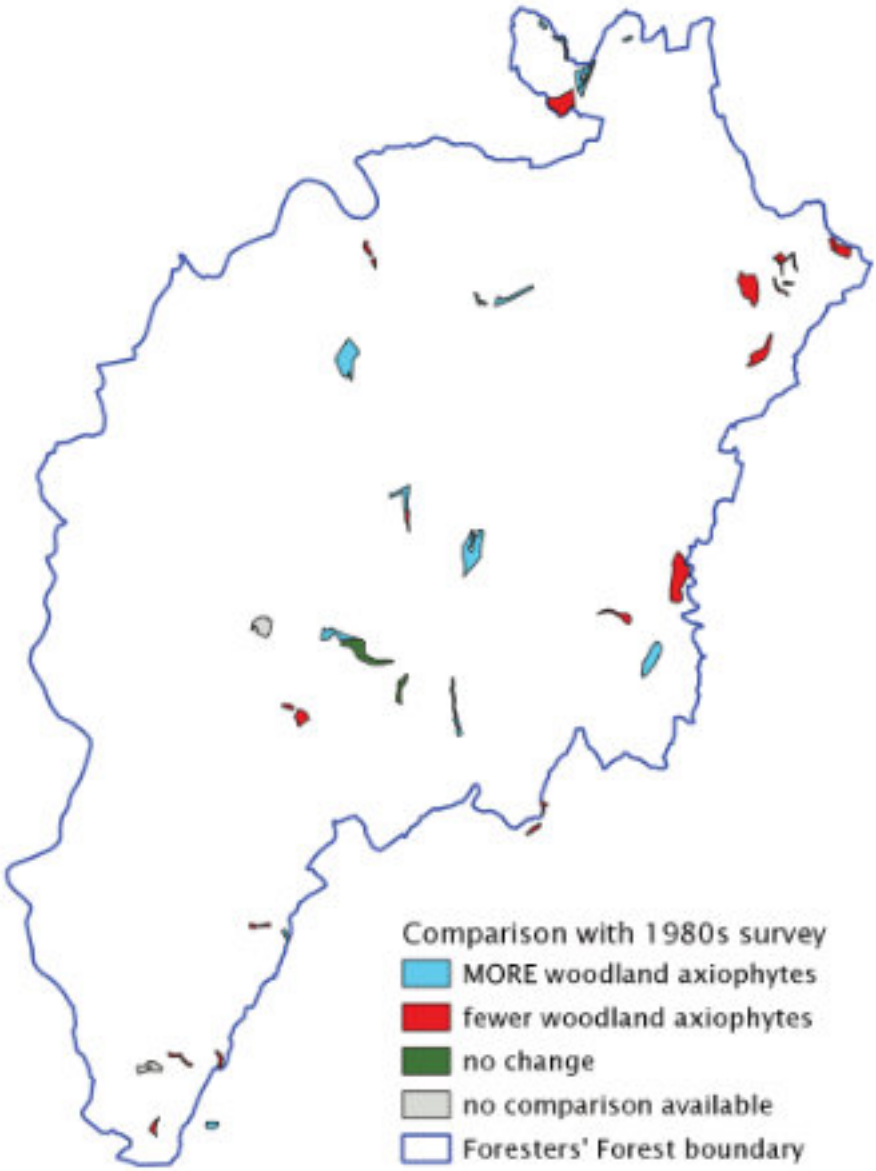
Results so far

On top of the 28 pilot sites surveyed during the Development Phase, a further 12 sites - 22 woodland compartments - were looked at during the 2018 survey season by 19 volunteers. Several compartments were visited more than once in order to get a fuller picture of the range of groundflora plants present, with a total of 16 visits taking around 165 volunteer hours. The sites surveyed were distributed throughout the Foresters' Forest area *(see map, right).*

Of the sites surveyed, two were new ie not looked at during the 1980s survey. The rest were on the sites of 1980s surveys for which old records could be compared. Seven of the comparison sites were found to have more axiophytes than in the 1980s results - possibly because they are now more open, disturbed and/or exposed to light than in the densely-planted compartments in the 1980s. One site had the same number of axiophytes and generally similar structure; two had a reduction in axiophytes, suggesting either a change to a different groundflora ecology or a more shaded, densely-overgrown environment.

Extent of surveys

The map below shows all compartments visited so far as part of the project, and how they compared with the 1980s survey for the same sites.



It was noted that many of the 1980s sites are hard to discern on the current maps, but their old outlines may often be detected by looking at aerial photographs.

Project completion 2020-2022

The priority for completing this project is to appoint a new Project Leader so that workshops, surveys and volunteer co-ordination can have a focus. The Project Leader will liaise with the Community Wildlife Survey Group to ensure that both experienced and new volunteers get a chance to be involved and/or to build on survey work they have already contributed to.

A clear set of project outputs will be agreed prior to the next round of woodland flora surveys. These will aim to fulfil the project aims of providing a baseline of woodland network biodiversity and a list of recommendations for how future woodland management can protect and improve the existing, distinctive Forest woodland flora.

Going forward from the Delivery Phase, the volunteers trained as part of this project may want to get involved with longer-term monitoring as part of the Community Wildlife Survey Group. Their experience will help to record how the Forest's diverse woodlands fare in future; they will also be well-placed to provide support to new volunteers.

notable and ancient trees

lead partner: Plantlife

Background

Much of the tree cover in the Forest of Dean is within plantations of young or similarly-aged trees; however, scattered throughout the Dean are notable individual trees, some very old, large or otherwise conspicuous. The include the 'giants of the Forest'. They occur both within planted compartments, which they often pre-date, and on their own, next to paths and sometimes marking old physical or cultural landmarks. The biggest and oldest specimens house a unique ecology with specific management needs to ensure their long-term future. The aim of the Notable and Ancient Trees project is to identify both the distribution of these individual trees and their management needs, in order to improve their prospects, create ecological connections and reduce future risks.

The cultural history, location significance and appreciation of notable old trees in the Forest are the subjects of the Veteran Trees History Project. In addition to looking at the trees' ecological importance the Notable and Ancient Trees project also works closely with the Veteran Trees History project to help spread the word about the Forest's extraordinary 'character' trees and their significance for both biodiversity and human history.

Delivery groundwork

The Development Phase surveys (84 trees) provided a basis for expanding the data collection into the Delivery Phase. The training sessions and baseline surveys used during 2016 were therefore re-introduced at the start of the Delivery Phase, with improvements based on experience in the field, and aimed at a wider selection of trees. The project featured in the Forest Showcase day in October 2017, with the aim of publicising the work and also attracting new volunteers. Subsequent training sessions for notable tree surveyors took advantage of the mild autumn weather and established a base of knowledge and skills for project delivery.

Key events and activities

- 1st October 2017: stall at Forest Showcase day, Speech House
- 7th October 2017: tree survey training
- July - December 2018: surveying and verifying notable trees
- January - December 2019: surveying and verifying notable trees
- Summer 2019: Discussions with Beat Foresters for Forestry England to highlight the locations of some of the more significant trees needing sensitive management.

Opportunities and challenges

The need to introduce an element of risk/threat assessment into the tree survey process was identified early in the delivery phase. Of the trees that have so far received an assessment, just over half (see below) were in the higher risk categories. This has highlighted some of the opportunities for the project both in the short- and long term. Discussions have already started with key Forest managers with the aim of identifying where and how sensitive treatment of important trees is most likely to have a beneficial effect.

Results so far

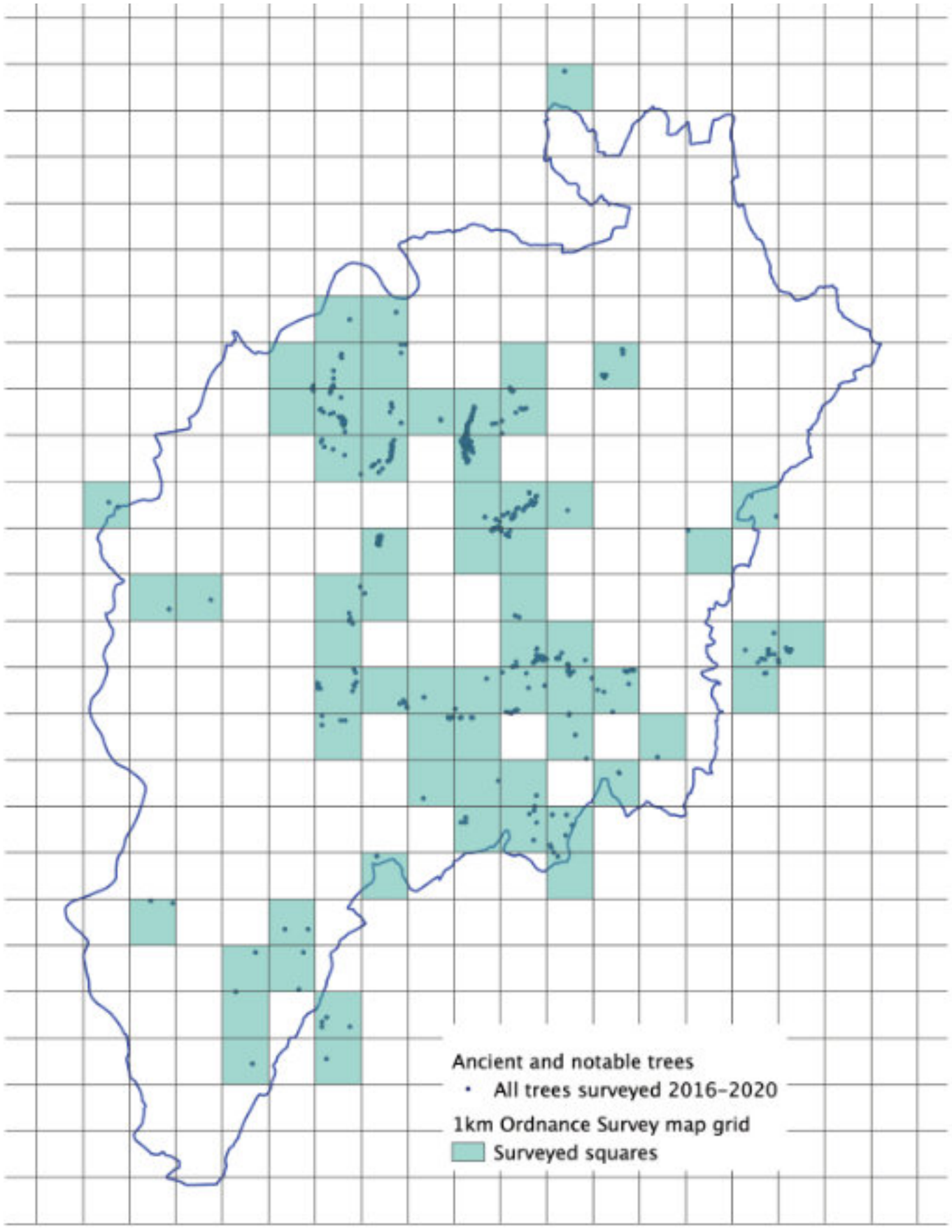
On top of the 84 trees logged during the development phase of the project, a further 83 in 2017, 248 in 2018 (which was the first full season of surveys) and 149 in 2019 have been recorded. Records were made largely using volunteer surveyors equipped with survey sheets and/or Trex GPS devices. A desk study added 24 older records from earlier surveys dating back to the 1990s; these were mostly for the most significant trees or areas of significant trees.

Several of the larger trees were measured or estimated to have a girth greater than 6 metres; the biggest were over 8m. The majority of the biggest notable trees were Oak, but a giant Lime, large coppiced Hazel and some very large Beech and Yew were also recorded. Although most had 'veteran' features these were not usually 'ancient' and certainly not dying. All of them offered a thriving ecosystem for myriad other species and most are still likely to produce seed and influence the surrounding habitat long into the future.

By 2019 a system of grading the threat level to trees was in place; of the 98 trees given a threat assessment, 47 were in the higher risk categories (3-5 out of 5). These are the trees most likely to benefit from management changes aimed at protecting notable individual trees and improving ecological connections between them and surrounding habitat.

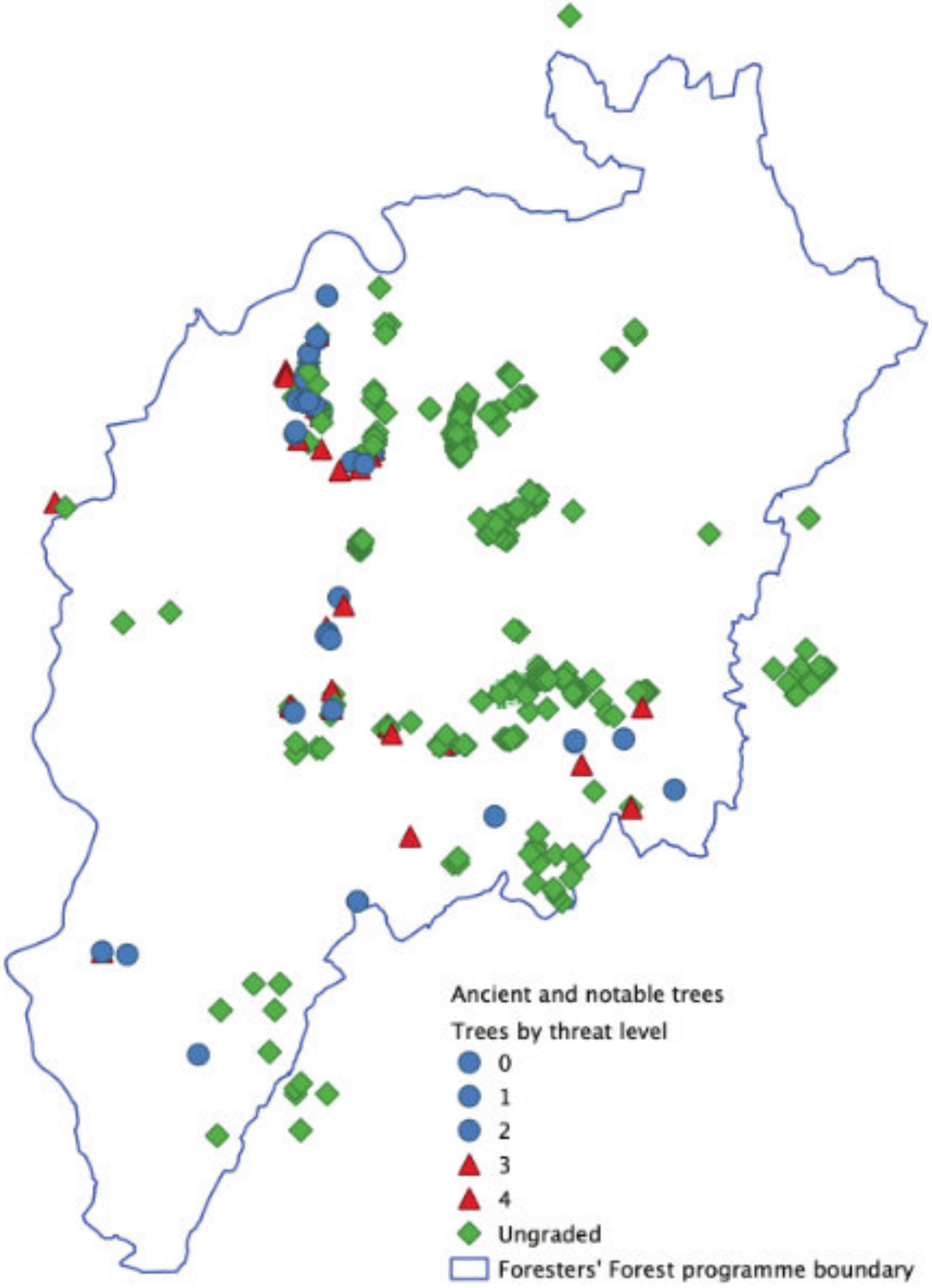
Extent of surveys

Of the 259 1km map squares which cover the Foresters' Forest programme area, 66 have been looked at by tree surveys. Not every map square is likely to contain ancient or notable trees, so the survey effort represents around a third of likely 1km squares - a remarkable coverage in two and a half years. The survey effort has covered over 500 trees since 2016, including areas of high concentration of older trees - e.g. around Speech House.



Assessing trees at risk from lack of management or other threats

The map below shows the locations of mapped trees identified during the surveys so far. Red triangles indicate those trees which have been graded and found to be in relatively high risk categories; blue dots are less at risk but still require sympathetic management to ensure their long-term future.



Project completion 2020-2022

Survey and recording will continue alongside discussion on how best to treat the notable and ancient trees identified, both as individual features and as part of the Forest ecology network. Whilst the project will officially complete in 2022, it is anticipated that both the inventory of notable and ancient Forest trees and the survey effort will continue into the future.

batscape

lead partner: Natural England

Greater Horseshoe Bats

Background

The Forest and surrounding landscape is of significant importance for Horseshoe bats, with approximately 26% and 6% of the UK breeding population of Lesser (LHB) and Greater (GHB) Horseshoe bats respectively being concentrated within the area. Whilst a number of the most important roost sites are protected, the surrounding countryside is not. This includes a range of other roosts, foraging grounds and flyways (including hedges, lines of trees, woodland edges, walls) used by the bats to get around the landscape.

The Batscape project was set up with the aim of gaining more understanding of the distribution of Horseshoe bats, the way they use their Core Sustenance Zones, and practical actions which will optimise these zones to best suit the needs of bats in key roost areas.

Delivery groundwork

Several surveys and training sessions took place during the Development Phase which formed the basis for extending and refining the Delivery Phase project. A plan of practical interventions, to correspond with the Horseshoe Bat Strategy for the Forest of Dean, which aims to increase the resilience of the bat populations, was developed in anticipation of new survey information about where, when and how bats use the countryside around their roosts.

Key events and activities

- 2017-19: Summer and winter Lesser Horseshoe bat flyway surveys
- 2018: Roost emergence counts
- 2017-19: An assessment of the habitats and hedgerow network within the Core Sustenance Zones surrounding key maternity and hibernation roost
- 2019: work parties to fill in hedgerow gaps

More events and activities

- 2018-19: Checking Forest of Dean District planning applications Given the conservation importance of Horseshoe Bats, any unrecorded bat roost sites are a matter of concern lest conservation efforts miss important populations or underestimate their needs. As part of the Batscape information-gathering, Natural England, Forest of Dean District Council and Gloucestershire Centre for Environmental Records explored screening of planning applications for which ecology reports were submitted. These have been checked by GCER staff and volunteers to identify any previously-unknown locations of Horseshoe Bats (and other bat species). 545 such applications have now been checked - every relevant application for 2016 and 2017.
- 7th March 2019: Meeting for local farmers and landowners to learn more about the Countryside Stewardship Scheme and how hedgerow management benefits the environment, including rare Horseshoe bats. Collaboration between Natural England, Gloucestershire Wildlife Trust, local bat expert and volunteers.
- 30th March 2019: tree planting on farmland to improve bat habitat

Opportunities and challenges

The project has already identified opportunities for liaising with farmers and landowners. Despite erratic weather conditions the survey effort has been steady, with a gradual increase in areas of the Core Sustenance Zones for which hedgerow surveys are now available. These surveys offer the chance to map where the most might be gained from filling gaps in existing hedgelines and/or planting new hedges to improve bat corridors.

The challenge of collating all the available records of Horseshoe bats in the the Forest of Dean has been partly addressed by the search of planning applications; these make it clear that intervention during the planning process is an important element of Horseshoe bat conservation, as they are often scattered throughout the area in small, hard-to-locate roosts that are very vulnerable to disturbance.

Results so far

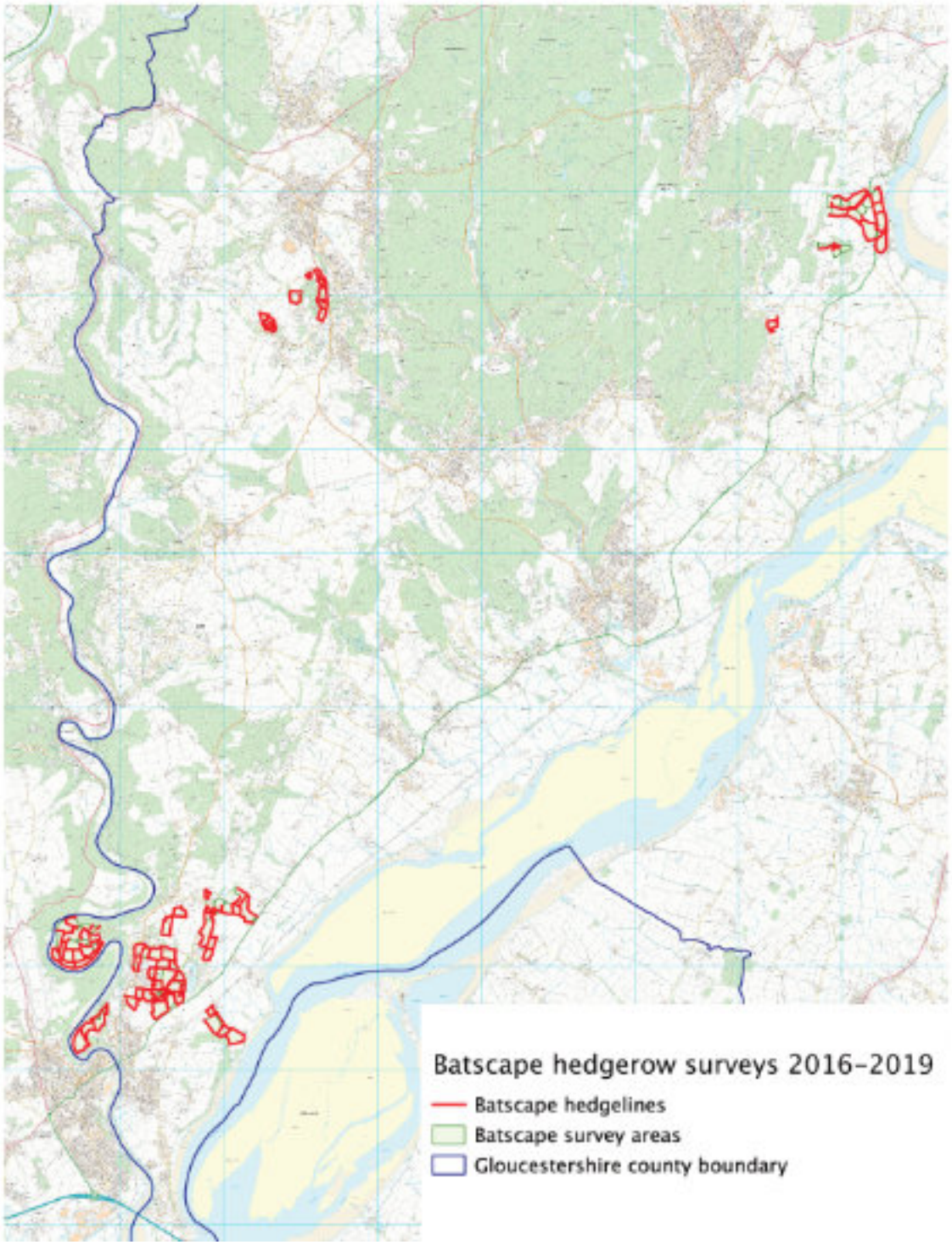
This has proved to be a popular project, attracting many volunteers and covering a large area of the Forest and surrounds. Over 300 hedgelines have been surveyed using a detailed assessment methodology developed especially for the project. Not all the 2019 data has yet been mapped as surveys and survey returns continued almost to the end of 2019, but so far the digitised surveys total 37km of hedgeline. These vary from short lengths of under 20m to stretches of boundary hedge over half a kilometre long. Features such as veteran trees were noted alongside hedge gaps, dominant tree types and other ecological features.

Bat records from Forest of Dean District planning applications

During 2018 and 2019 GCER staff and volunteers checked 545 planning applications for which ecology reports were known to have been provided. Of these, 499 were distinct applications (others were outline or discharge of conditions of a main application). Of these, 87 were found to have records of Horseshoe bats, either present or recently present. Not all have yet been checked against existing records but it is estimated that around 30 previously unrecorded sites have been identified.

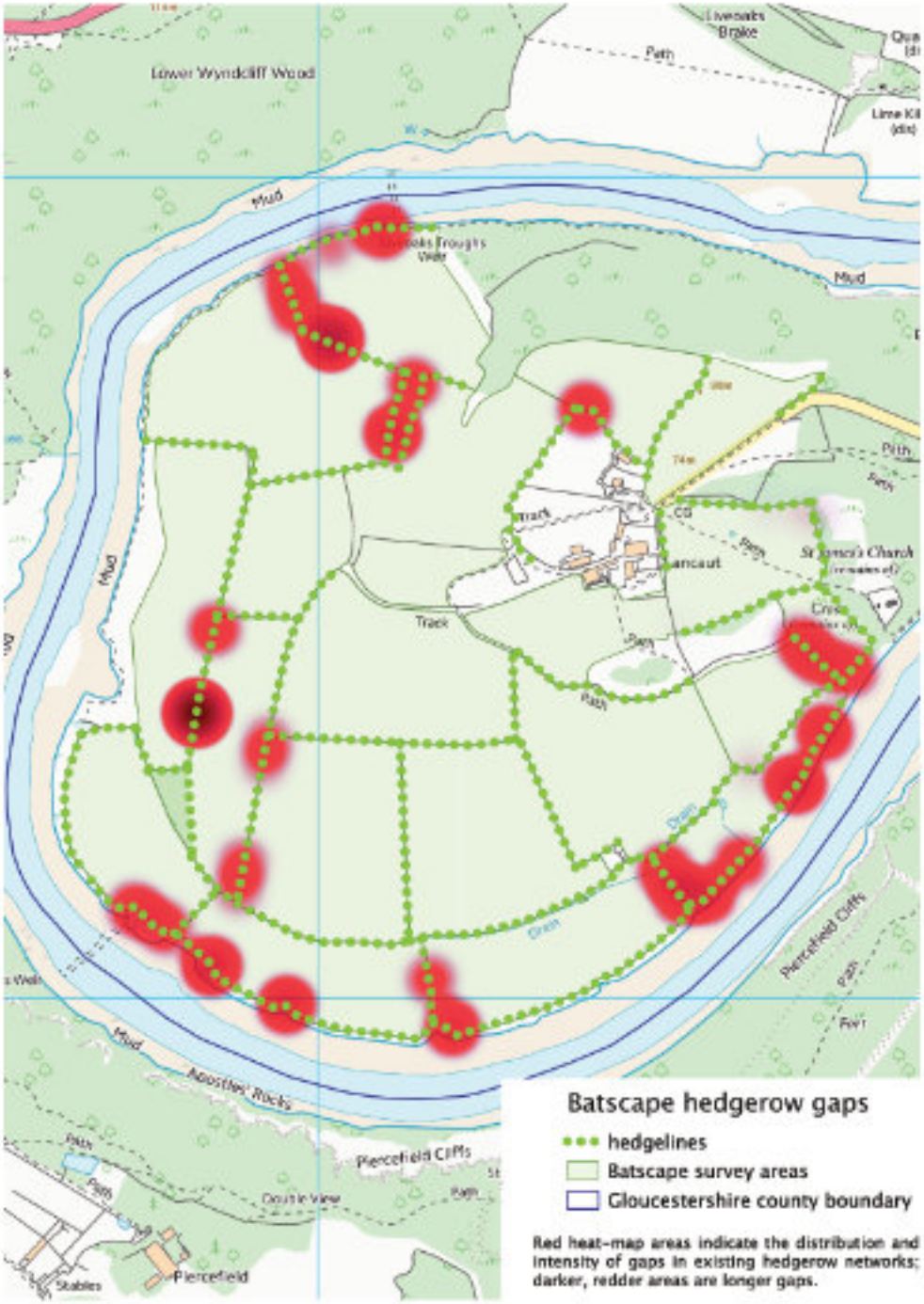
Extent of surveys

The map below shows survey areas concentrated on known Horseshoe Bat Core Sustenance Zones. Note that not all of the 2019 survey sites have yet been included; the true survey area to date is more than pictured. The Batscape project has seen a steady increase in survey effort, hence the majority of the mapped areas shown below were looked at in 2018 and 2019.



Analysing results

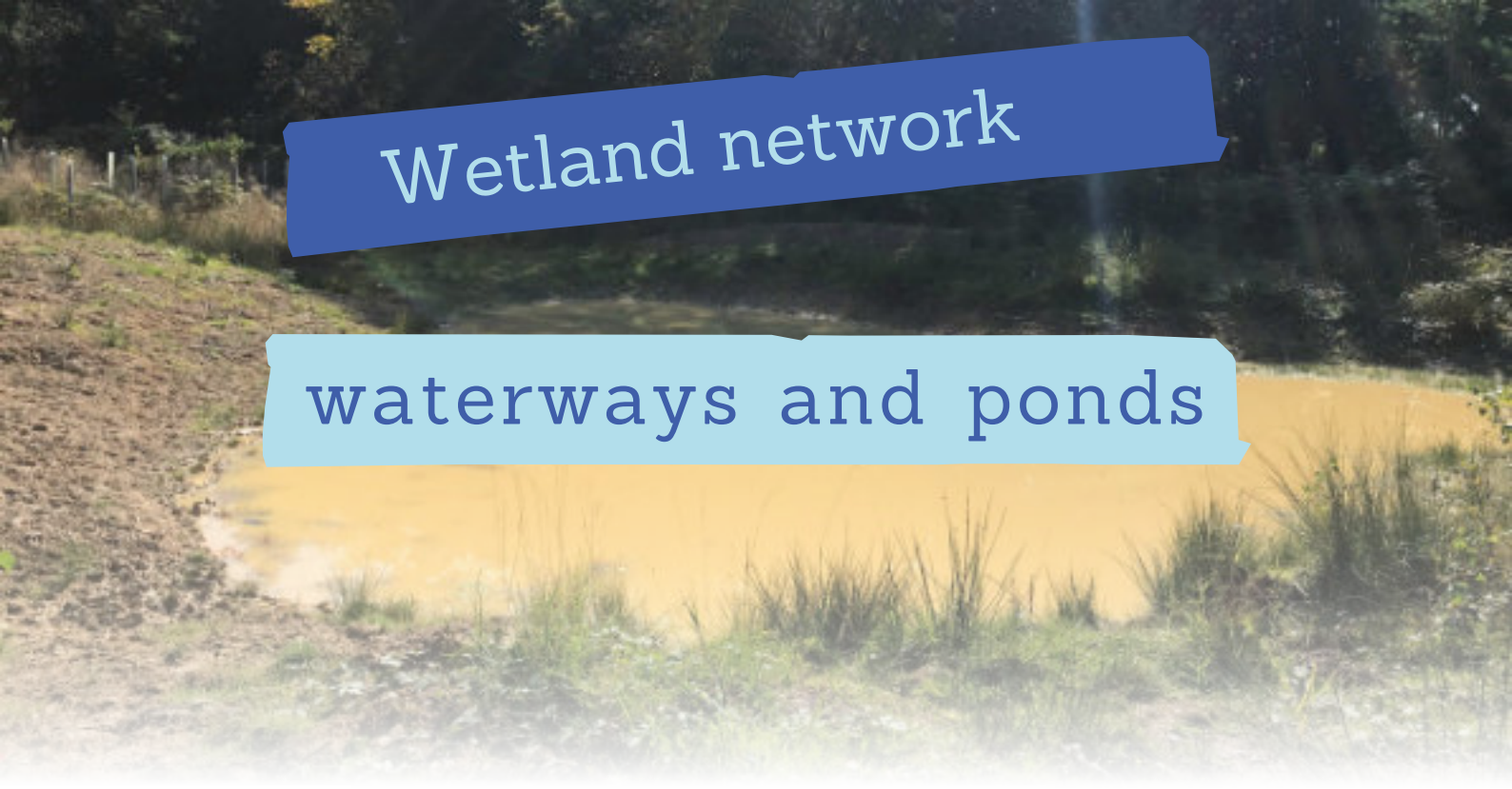
The map below shows one particular survey area at Lancaut, west of the main Forest of Dean but within a shared Core Sustenance zone between the Wye Valley and the main Foresters' Forest area. Practical interventions aim to reduce the red areas on the map wherever this will improve the suitability of a hedgerow network for foraging Horseshoe bats.



Project completion 2020-2022

Further hedgeline surveys are planned in order to maximise the benefit of joining up bat corridors in Core Sustenance Zones. Liaison with farmers and landowners will continue, as will training sessions for new volunteers. It is hoped that existing volunteers will lend their experience to help new Batscape surveyors. Meanwhile, any useful data on related features such as notable and veteran trees will be shared with other Foresters' Forest projects.

The ultimate aim of the Batscape surveys is to help focus practical improvements that will increase the resilience of the Forest of Dean's rare bat populations; to this end, more practical interventions will be carried out in the final two years of the project.



Wetland network

waterways and ponds

Background

The Forest of Dean benefits from a complex network of watercourses, ponds and boggy areas which are often under-recognised despite their importance to the ecology. The Waterways and Ponds project includes both flowing and standing water habitats. The focus of the project is the numerous brooks and ponds scattered across the Forest, originating from seepages, pools and mires that are mainly clustered around Woorgreens but can be found elsewhere in the Forest such as Wigpool and Edgehill.

The project aim is to encourage the recovery of iconic species that rely on the Forest wetland network, such as amphibians, reptiles, sphagnum mosses, Willow Tits and Brook Lampreys. Improving the available wetland habitats also has the advantage of offering an appealing, educational resource for visitors to the area who may not be aware of how important water is to the ecology of the Forest.

Delivery groundwork

A Development Phase baseline of pond locations and amphibian records was already in place at the start of the Delivery Phase; the first stages of the Delivery Phase involved refining the PondNet survey forms used previously, setting up online recording of both species and pond habitats, and encouraging existing and new volunteers.

In order to facilitate collection and analysis of data several online recording methods were tried, with Living Record chosen as the main species recording platform. Pond locations were entered onto Living Record prior to the main survey work taking place. Meanwhile the defunct PondNet website was partially substituted by the creation of an online pond habitat form similar to the original PondNet form but with improvements to make it more user-friendly and include all the features relevant to the Forest of Dean ponds, e.g recording boar damage.

Key events and activities

- 24th June 2017: Waterways survey training day for volunteers

- October 2017: Japanese knotweed clearance on the Blackpool Brook and a Waterways Survey by Natural England staff for partners and volunteers
- September 2018: Lydbrook School pond renovation
- January 2019: Completion of pond renovation at former industrial mining site, Foxes Bridge Colliery, with excavation and scrub clearance. A pond was also restored at Crump Meadow former colliery, linking the Waterways and Ponds project with the Built Heritage project.
- Riverfly training and surveys at 15 sites, 12 of which are now registered on the national Riverfly Survey website; these surveys complement partner organisations' Riverfly surveys in Gloucestershire, and also provide helpful information for another Foresters' Forest project, the Dipper habitat project

- 2019: Sphagnum moss distribution survey for Woorgreens and Edgehill
- February 2019: Installation of a new Eel pass at Blakeney Weir (previously a major obstruction in the watercourse network)
- 8th February 2019: Review and refresher day for volunteers, on ecology, species recording and future plans (*photo: left*)

Opportunities and challenges

One of the initial challenges to pond surveyors was the inability to use the WaterNet website to view past PondNet surveys for each volunteer. The data was not lost however, and subsequent exploration of alternative survey collection found a good - or better - alternative.

Most practical work, whilst subject to erratic weather conditions, progressed well and has produced excellent results, with new and restored ponds rapidly starting to develop more wildlife interest. The creation of the Eel pass to enable Eels to progress to the Blackpool Brook led to some siltation issues which required monitoring and some clearance work; this does not however detract from the value of having the fish pass, which avoids a major obstruction on this otherwise suitable watercourse.

Practical work on ponds and watercourses has led to opportunities for liaison and collaboration with other Foresters' Forest projects, such as the Built Heritage project, Birds and Reptiles work. Some surveys have also been collaborative, such as the contribution to wider Riverfly Survey efforts - a national survey which provides invaluable data for a wide range of ecological indicators and decision-making.

Results so far

Survey work: 209 ponds have been logged on the Living Record online recording map and hundreds of species records entered by dedicated volunteers, Background knowledge about the ecology of the Forest's wetlands has also been increased by surveys of fish, riverflies and Sphagnum moss distribution. The Lamprey survey (*photo: left*) covered 249 waypoints and found 13 instances of fish present including Eel, Bullhead and Brown Trout. 15 riverfly survey sites yielded over 100 records, indicating good conditions for at least some parts of the Cinderford, Blackpool Brook and Cannop catchments.

Practical work:

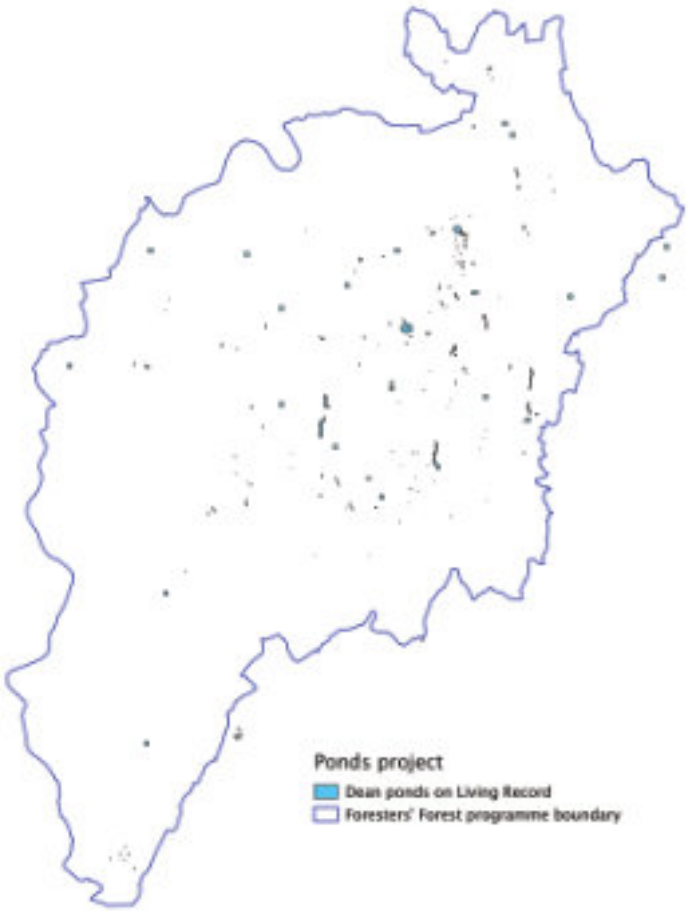
Practical restoration work has taken place at two old Colliery sites (including 6 ponds at Crump Meadow), Lydbrook School and Littledean School.

A major obstruction to migratory fish has been circumvented on the Blakeney Weir, and Japanese knotweed clearance has helped native vegetation alongside the Blackpool Brook. The project has also introduced new volunteers to a range of skills including riverfly identification and pond restoration.

One of 6 ponds created at Crump Meadow

Extent of surveys

The map below left shows the distribution of over 200 ponds surveyed and logged on the Living Record online recording system. On the right are the watercourses surveyed by Bournemouth University for Lamprey and other fish species.



Project completion 2020-2022

More surveys and practical work are planned. They are likely to include a progression to more advanced riverfly surveys, for which a new training event will be held. The riverfly and MoRPh surveys already carried out will be used to monitor changes to the watercourse stretches in question, e.g. where obstructions have been removed or where beavers have been active.

Further pond restoration and watercourse clearance will follow on from what has been found out in the surveys, and it it hoped that the team of dedicated volunteers will grow and start to cross over with the surveying effort for other projects, as has already happened in some cases. The final outcome will be more, better Forest ponds going forward into good management, and a baseline of information for monitoring their success.

Open habitats network

Conservation grazing

Lead partner: Gloucestershire Wildlife Trust

Background

The biodiversity of the Forest of Dean does not just depend on tree and scrub cover; many of its rarest and most iconic species depend on open habitats such as rough grassland, heathland, bog and bare ground, often in proximity to woodland cover. The loss of open habitats therefore reduces the overall biodiversity, sometimes to the extent that species can no longer live in the Forest and become locally extinct. Since the reduction of natural grazing animals the Forest has seen a decline in species such as the Small Pearl-bordered Fritillary butterfly, which formerly occurred at over 50 sites in the Forest. Sadly, it is now only found on two nature reserves due to the loss of open habitat.

This project aims to conserve and enhance wildlife in the Forest by creating areas of open habitat, especially heathland, and maintaining it through grazing using a variety of livestock. Around 80 hectares of land will be enclosed in order to create habitats and enhance them through grazing using ponies and cattle. Within the permanent fenced area, temporary fencing will be used to divide the site into compartments to allow grazing levels to be manipulated. The resulting, expanded open habitat will sit within a wider mosaic of habitats - rides and corridors, scrub, woodland and wetland,

Delivery groundwork

After extensive discussion and study of maps and existing wildlife data during the Development Phase, three nature reserves, currently managed by Gloucestershire Wildlife Trust, were selected for a conservation grazing project within the Foresters' Forest: Wigpool, Woorgreens and Edgehills. These reserves were selected as they already centre on established heathland, with wildlife that would benefit the most from the introduction of conservation grazing to link existing habitats.

Small Pearl-bordered Fritillary | ©Butterfly Conservation

A grid-based system of vegetation monitoring developed by Gloucestershire Wildlife Trust was prioritised for these reserves in order to provide a baseline from which the success of the conservation grazing will be measured as the project progresses.

Key events and activities

- 12th November 2017: Walk and talk about the project, introducing the idea of new fencing in the Forest, choice of livestock and potential wildlife benefits

- 22nd July 2018: Woorgreens Nature Reserve fencing and butterfly habitat management
- August 2018: fencing progress
- 2018-19 livestock introduced, new interpretation sign, new access gates

Opportunities and challenges

The introduction of manageable fenced areas and grazing opened up lots of opportunities for related projects such as birds, butterflies and reptiles work, leading to a real possibility of reversing the decline in some of the Forest's most vulnerable species. Fencing was not without problems though: it is visually obtrusive, and often unpopular with visitors who prefer the open, unenclosed feel. Fortunately there has also been positive feedback about the presence of livestock and the attractiveness of the newly-opened habitat to birds and other wildlife.

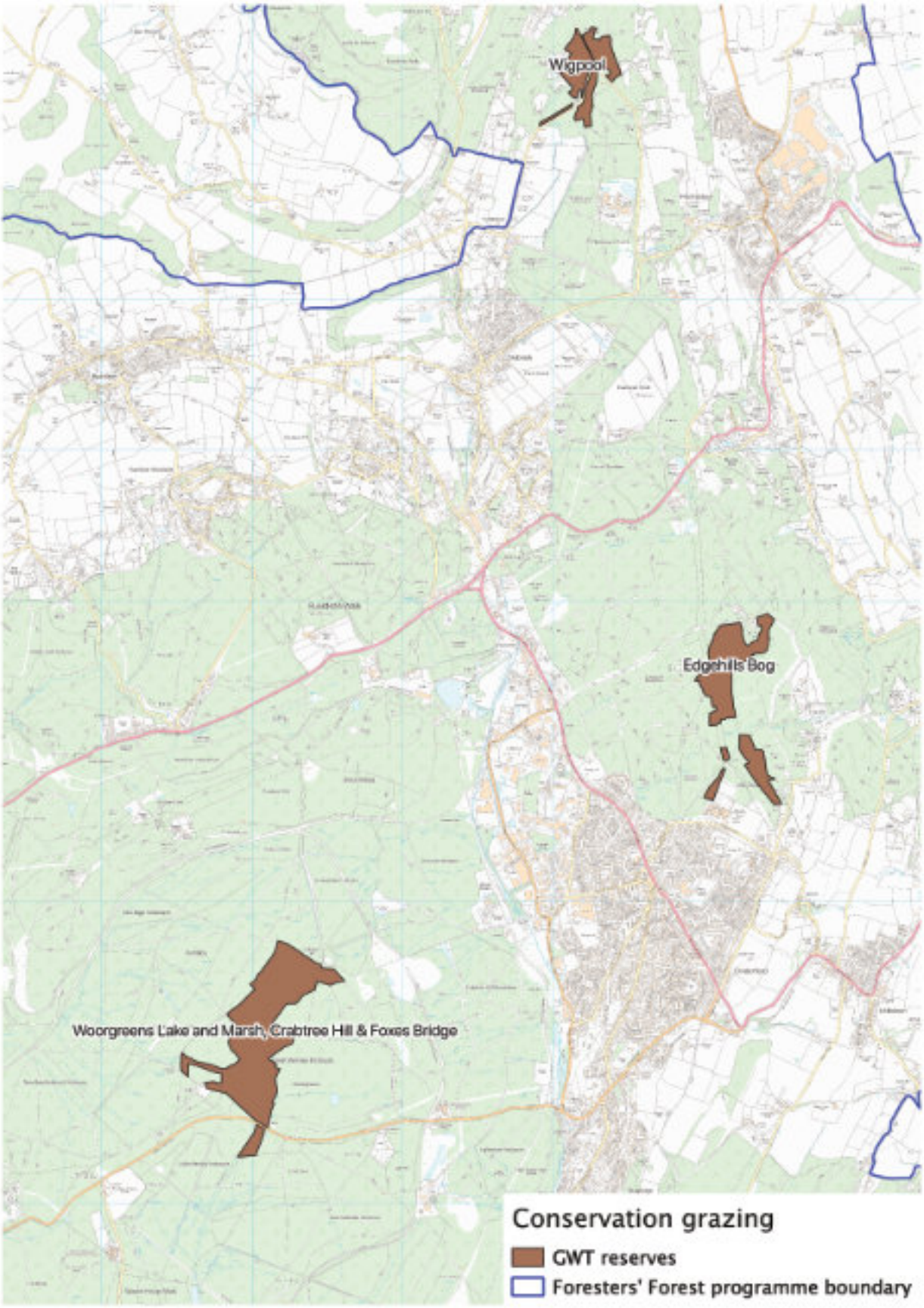
There have been occasional problems with deer colliding with the fences, despite choosing the most deer-friendly fencing types available. The presence of unleashed dogs is thought to have aggravated the risk. This may be because the current generation of deer in the Forest is simply unused to navigating fences. Whether the deer get wiser to the fencing remains to be seen, but in the meantime incidents have been reduced by increased vigilance and by studying ways of reducing collision risks.

Results so far

Fencing is now completed and Highland cattle, English Longhorn cattle and Exmoor pony grazing have commenced at Woorgreens, Wigpool and Edgehills Bog (the first to get pony grazing). The structure of the vegetation on the grazed sites has not yet had long enough to respond overall, but small areas of bare ground, more open grassland and regenerating heather are all visible on the site. Despite some issues with the new fencing the general public response has been good both to the presence of the livestock and the principal of conservation grazing.

Extent of the project

The three nature reserves included in the project are outlined below:



Project completion 2020-2022

This project will be continued as part of Gloucestershire Wildlife Trust nature reserve management, with more monitoring activities planned for the rest of the project, possible adjustments to fencing and management, and education activities around the treatment of the open areas and the effects on wildlife.

Dean's Marvellous Meadows

Photo: Dean Meadows Group

Background

It is estimated that we have lost over 97% of our wildflower meadows in recent times. The remaining meadows are often small and isolated, making it hard for species to thrive and to colonise new sites.

This project was set up to work with landowners and communities to advise on how best to manage and enhance their wildflower areas and to provide advice on how to upgrade their knowledge and skills in subjects such as cutting and grazing regimes, scrub and bracken control and suitability of livestock. The project draws on the local experience of the Dean Meadows Group and has three main strands of activity:

Meadows surveys and management advice

Targets are a minimum of five meadows per year, with a total of :

25 meadows under suitable management to enhance wildflower interest;

25 Meadows Surveyed and recorded;

25 landowners advised as to best practice management to enhance wildflower interest.

Capital Works Fund

A small practical fund distributed by the Dean Meadows Group to landowners to carry out one-off capital works to better manage their wildflower meadow in line with advice given. It tends to go on things like fencing or water toughs to enable grazing etc. Landowners apply to the fund and a panel of DMG representatives/FF and myself scrutinise against a set of criteria. The fund is just over £21k, to be distributed over yrs 2-5 of the Delivery Phase with a maximum of £1k per landowner per year.

Events

Walks and talks, with a target of a minimum of 25 attendees at each event and at least one event a year.

Before and after fencing works supported by a Capital Works Fund grant

Delivery groundwork

This project follows on from the well-established work of the Dean Meadows Group, who became involved with the Foresters' Forest project shortly after the commencement of the Delivery Phase. The Group already has experience of meadow survey, seed collection and management from sites within the Forest of Dean District, and has an established relationship with Gloucestershire Wildlife Trust, linking this project with the Conservation Grazing project.

Results so far

The Group currently has six regular volunteers and has attracted excellent attendance at talks and meetings and an increasing level of interest from landowners wanting management help and advice.

Meadow surveys and management advice: 4 enquiries in 2017, 5 in 2018 and 13 in 2019.

Capital Works Fund: to date 8 applications have been approved, a spend of £7,518.

Events: these have been a great success, exceeding the project target with 101 attendees in 2017, 90 in 2018 and 92 in 2019.

Project completion 2020-2022

The aim is to encourage more volunteers, meet or exceed the meadow management targets and complement the other open habitat network projects by informing people about the importance of wildflower-rich meadows in the Dean. The work of the Dean Meadows Group will continue beyond the duration of the Foresters' Forest project in conjunction with the Community Wildlife Study Group and Gloucestershire Wildlife Trust.

Photo: Dean Meadows Group

birds

Nightjar *Caprimulgus europaeus* | ©RSPB

Background

The Forest provides important and valuable habitat for a large diversity of bird species. This project is targeted at improving the conservation status of key species: birds specifically associated with the Forest's wetlands and watercourses (Willow Tit and Dipper), birds of woodland edges and open ground (Nightjar and Woodlark) and the elusive Hawfinch.

Hawfinches and Willow Tits are suffering severe national declines and are designated as a red listed species requiring urgent action. Woodlarks are a rare breeding species in England. Nightjar and Dipper are both on the Amber list of Birds of Conservation Concern as well as being distinctive and iconic birds of the Forest of Dean landscape, vulnerable to disturbance and to loss of their specific habitats.

Project aims for these birds are

- To manage more land within the Forest to provide critically needed foraging and breeding habitat
- To gather information on the population status and trends of these priority bird species.
- To increase knowledge amongst volunteers, land managers and local people on the status and needs of these priority species.
- To confirm that analysis of song reliably identifies Nightjars and may therefore be used as a census tool for monitoring the Nightjar population in the Forest.

Delivery groundwork

An extensive survey of birds in the main Forest of Dean area carried out during 2016 formed the information baseline for further surveys and activity planning at the start of the Delivery Phase. Surveys have been ongoing since, Depending on their habitat requirements the key birds in this project have conservation management delivery which is closely tied to other projects such as the Ponds and Watercourses project and the Conservation Grazing project. Much of the birds project work was therefore dependent on the relevant groundwork being carried out in other projects.

Key events and activities

- Survey work: throughout 2018 and 2019, records sent to the County Bird Recorder. A range of species was ringed as part of regular bird-ringing activity in the Dean.
- January 2019: volunteers cleared struggling pine trees to enhance open woodlark habitat. Cut brash was used to make a low barrier to help protect any ground nesting birds from disturbance.

- Summer 2019: 18 Dipper sites monitored, i.e. sites known to have had breeding Dipper in past years. Of these, 6 sites were boxes (usually placed on or in bridges and culverts) and others were natural nest sites.

Opportunities and challenges

The accompanying conservation management work of Foresters' Forest projects for conservation grazing, ride and corridor management, wetland improvements and woodland management all offer excellent opportunities to increase the resilience of the Forest habitat for vulnerable bird species. Whilst habitat fragmentation and loss is probably the key concern, disturbance issues pose a challenge, especially in areas where the opening up of the Forest floor has encouraged more disturbance from human visitors, dogs and wild boar. Careful monitoring of successful new nesting sites is already under way to help identify where this could be a problem and how best to minimise the risk.

Results so far

Thousands of bird records have been made within the study area; these have yet to be assimilated into the main Foresters' Forest data hub but are known to include new locations for some of the key species targeted in the Birds Project, notably Woodlark.

Conservation management work for woodlark and other ground-nesting birds, both for the Birds Project and as part of other open space habitat management, has opened up both more area of suitable nesting habitat and also better connections between habitats.

Results from the Dipper survey work are now collated and show good use of nest boxes in appropriate locations, plus some natural nesting cavities being used successfully. Of the ten natural nest sites monitored during 2019, 8 successfully fledged young. 4 out of 5 nestboxes with eggs laid had a successful outcome, including one successful double brood.

Summary of Dipper surveys and ringing:

Year	2012	2013	2014	2015	2016	2017	2018	2019
Sites checked	5	12	10	13	24	27	28	18
Active nests (including 2 broods)	5	12+3	6+2	9	11	13	13	18
Nests not in use (where a nest has been in the past)	1	3	2	2	1	3	3	3
Pulli ringed	16	25	32	22	24	29	32	48
Broods ringed	5	5	6	6	6	9	9	12
Double broods	3	5	1	0	0	2	1	5
Eggs total	19	52	26	42	46	39	44	74
Pulli total	16	32	21	31	30	32	32+	56
Fledged Total	16	25	20	22	24	29+	32+	48
Territories where nest not found	-	2	2	2	2	1	1	2

Averages for all active nests monitored 2012 to 2019

Year	2012	2013	2014	2015	2016	2017	2018	2019
Average clutch size (occupied nests)	3.8	4.0	4.3	4.2	4.6	4.33	3.8	4.1
Average brood size (occupied nests)	3.2	2.5	3.5	3.0	3.0	3.56	3.6	3.1
Fledging % (occupied nests)	84.2	48	76.9	52.4	52.2	74.4	78	65

Nest survival comparisons 2012 to 2019

Figures are percentage of each clutch hatching and fledging.

Site / Year	2012	2013	2014	2015	2016	2017	2018	2019	Average % Fledge
Blakeney A48	100	75	60	100	100	25	O	100	70
Parkend	100	33	100	100	80	0	100	100	77
Pitching Green	100	0	0	75	100	0	0	100	47
Pedal a bike	62.5	100	0	0	0	75	0	-	34
Shakemantle	0	28.6	100	0	50	75	66	0	40
Blackpool bridge	-	100	62.5	-	0	62.5	100	100	71
Swan Alvington	-	0	75	0	0	0	-	-	
Bp brook sign	-	-	-	80	75	100	100	100	91
Blakeney PO	-	-	-	11.1	0	75	66	100	50
Brook cottage					100	100	100	60	90

Other bird survey results will be mapped in more detail in the final Biodiversity Projects report alongside analysis of the overall project findings. They include spring and summer nest monitoring (eg Tree Pipits at Woorgreens), autumn ringing reports, and survey sightings for Willow Warblers, Nightjars, Tree Pipits and other birds noted during the surveys.

See the map in the Summary at the beginning of this report for the extent of survey activity to date.

Photo: Mervyn Greening

Project completion 2020-2022

Further survey and conservation work are planned for the rest of the project duration, including analysis of Nightjar calls and extensions to the existing clearance efforts for ground-nesting birds. For the Dipper survey, the following activities are planned:

- Continue to monitor known sites.
- Make further surveys of Soudley brook and River Lyd.
- Add some more artificial nesting sites in the form of large tubes.
- Put colour rings on adults.
- Make observations of colour ringed birds to attempt to measure territories of breeding birds.
- Carry out "Riverfly" surveys for comparing food availability.

It is anticipated that monitoring of the key species in the birds project will continue beyond 2022, building on the new habitats and opportunities created and the links made with other conservation partners.

reptiles

Background

The Forest is an important area for reptiles because it has all four common species – Slow Worm, Adder, Common Lizard and Grass Snake. These animals have all but disappeared in most areas of the country because of changes to agricultural practices and other development such as housing, industry and associated infrastructure. Some are also vulnerable to disturbance from visitor pressure in the countryside, changes in water levels and pesticides.

The aim of the Reptiles Project is to monitor reptile populations and create favourable habitats for a thriving and resilient reptile population. The need for educating the public and advocating reptile conservation is also very great: this is an important output of the project, vital for ensuring protection of reptiles into the future.

Delivery groundwork

Reptile monitoring transects were trialled at the start of the project and their usage and position refined as survey work progressed. For recording purposes an online form was developed by GCER but it was decided that Living Record and the use of paper forms was a better solution for the project.

Slow-worm Anguis fragilis

Opportunities and challenges

Keeping reptile tins and mats in place for long-term survey can be a challenge, with frequent visits needed in some cases to prevent livestock or human footfall from dislodging them. Fortunately deliberate disturbance has not been a big problem on the survey sites.

Opportunities have included the chance to introduce more people to the appreciation, study and identification of reptiles, This project has also provided the opportunity for discussion with other conservation managers taking part in Foresters' Forest about the need to take reptile requirements into account and how this might best be achieved.

Key events and activities

- 6th June 2017: placing of reptile refugia sheets (corrugated tin) along transects

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- 1st October 2017: stall at the Forest Showcase day, Speech House
- 7th October 2017: reptile survey to look at the refugia sheets placed in June
- August - September 2018: checking and monitoring reptile transects
- March 2019: Newt traps set at Awres Glow, Lightmoor and Staple Edge, then checked the next day for species identification and count

Photo: Linda Wright

Results so far

6 recorders with volunteer assistance recorded 345 reptile records in 2019 using the Living Record online recording system. Of these, 11 were adder, 27 lizard, 7 grass snake, 121 slow worm and 211 unidentified (these being mostly signs of reptile tins/refugia having been used recently). Refugia don't just attract reptiles: 2018 results (below) indicate how many other species were seen when checking one set of reptile transects at Moseley Green:

Moseley Green Reptile Transect - 2018 Summary by Refuge

			Refuge	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	Sightings
				301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	
			Type	S	O	S	O	S	O	S	O	S	O	S	O	S	O	S	O	S	O	S	O	
101	Adders	juvenile	16-20cm																					
102	Adders	male	20-40cm																					
103			41-70cm																					
104	Adders	female	20-40cm																					
105			41-70cm																					
111	Grass snakes	hatchling	16-20cm																					
112			21-70cm																					
113			>71cm																					
116	Slowworms	juvenile	tiny	2												1								3
117			small	1		1				2				1										5
118	Slowworms	male	medium																1					1
119			large				1		1												1			3
120	Slowworms	female	medium	1		1	1	3		1	1				7				1				2	18
121			large			1		3	7			1							1		1			14
131	Lizards		small		1																			1
132			medium						1	1														2
133			large			1																		1
141	Toads		small						2	1					1		1	1	3		3			12
142			medium			1		2	2			1												6
143			large					1													1			2
151	Ant Nests		Black	3	1	8		1	6	5	7				8		1		3	9				52
152			Red			1			1		1	1			1		1		1		2	8		17
156	Shrews	common							1												1			2
161	Mice										1										1			2
166	Voles								1		1				1									3
			DNF							2			1					1						

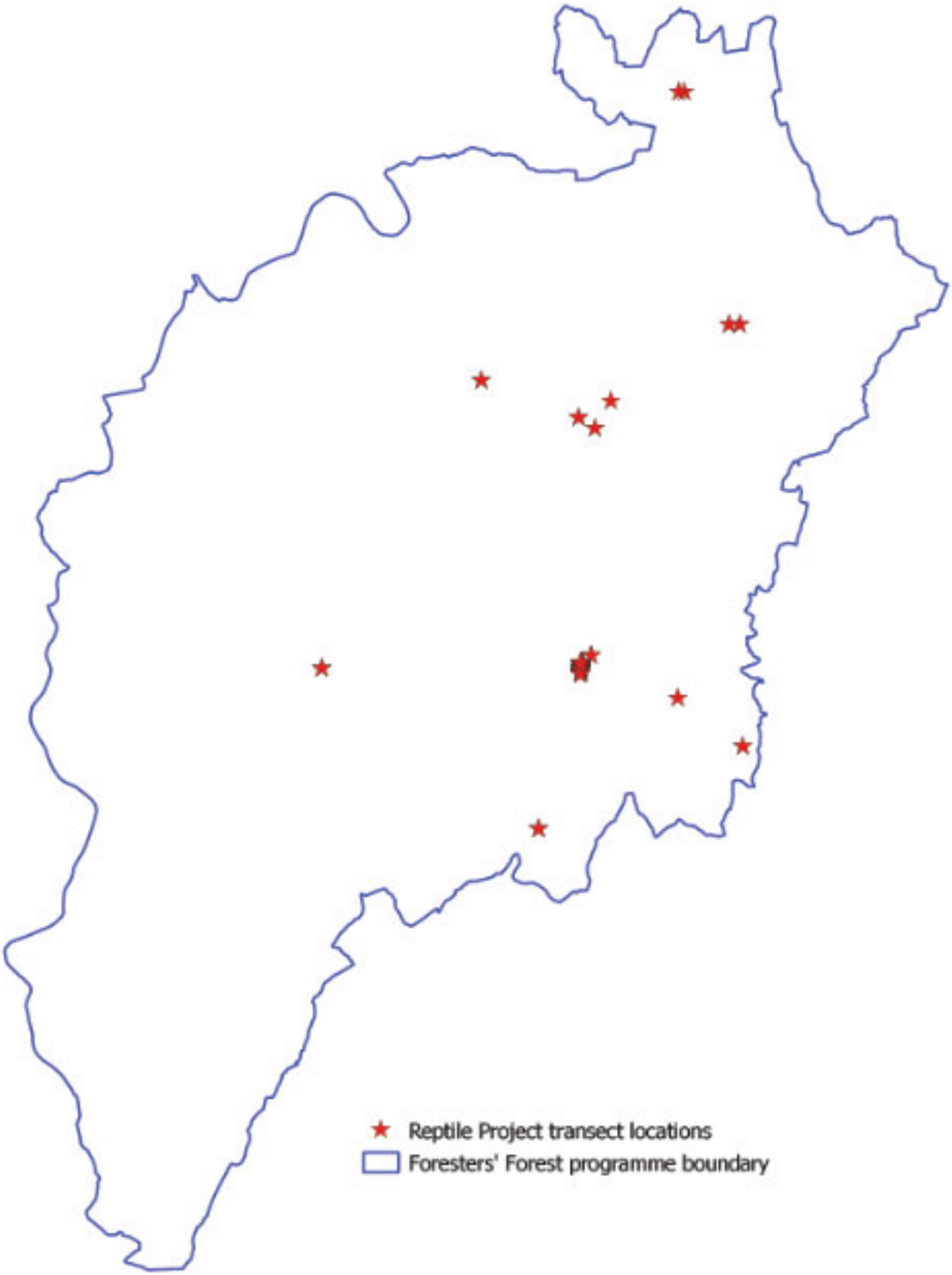
13	survey record sheets	
24-Apr-18	22-May-18	02-Jun-18
03-Jun-18	12-Jun-18	26-Jun-18
15-Jul-18	19-Jul-18	30-Jul-18
05-Aug-18	25-Aug-18	31-Aug-18
04-Sep-18		

Type S galvanised steel
O onduline
DNF refuge not found

144 in total

Extent of surveys

The map below left shows the distribution of reptile transects surveyed during 2019:



Project completion 2020-2022

The aim for the rest of the project time is to increase the volunteer survey effort, with transect checks each fortnight over the summer period and extending to more transect areas e.g. Crabtree Hill, a very promising area that there hasn't been time to survey in detail so far. Results from this project feed information into other projects and future work by partners on the ground, helping to ensure that conditions for reptiles are optimised where possible.

Rides and corridors network

butterflies

Lead partner: Butterfly Conservation

Background

The Forest is the last remaining foothold in Gloucestershire for the Small Pearl-bordered Fritillary butterfly, a species which has undergone large national declines. Changes in land management, notably an increase in tree cover, scrub and bracken growth and a reduction in sheep grazing, have drastically reduced the area of suitable breeding habitat.

In the Forest the Small Pearl-bordered Fritillary has been closely associated with two main types of habitat: woodland glades and clearings, and grassland with bracken and/or patches of scrub. Of great importance is the presence of Common Dog Violet and Marsh Violet – the caterpillar food plants. Substantial areas of tree removal, scrub and bracken clearance, earthworks, and planting are needed to successfully maintain and enhance habitats.

The aim of this project is to create or restore a network of open spaces throughout the Forest for this butterfly to flourish again, and reintroduce them into areas where local extinction has occurred. Work includes:

- Gathering information on habitat quality and remaining butterfly numbers and their distribution, for Small Pearl-bordered Fritillary and other key species;
- Conservation management and enhancement work to provide more suitable habitat;
- Reintroduction of Small Pearl-bordered Fritillaries to a restored site where local extinction has recently occurred;
- Engaging local people in the project to raise awareness, understanding and participation in saving this species in the Forest

Other key species targeted by the Project are Grizzled Skipper, Dingy Skipper and Wood White. All are considered vulnerable to habitat loss and have suffered national declines.

Delivery groundwork

Surveys from 2016 and 2017 had already indicated the need for urgent action to reverse the decline in key butterfly species in the Dean, especially the Small Pearl-bordered Fritillary. In addition to volunteer surveys and practical conservation work the services of professional ecologists were contracted in order to provide detailed assessments of target species status throughout the project.

Key events and activities

- 6th June 2017: butterfly survey around Moseley Green and Mallards Pike
- 25th September 2018: Dean Green Team create buttefly habitat
- March 2019: butterfly habitat improvement work at Ruspidge Halt: scrub and bracken clearance from breeding habitat areas and use of scrub to create boar 'fencing' to protect the habitat
- Summer 2019: new interpretation sign

- Summer 2019: More targeted surveys carried out under contract including habitat assessment, specific species surveys (eg Small Pearl-bordered Fritillary) and impact assessments of management plans
- May and June 2019: Dean Green Team volunteers survey at Ruspidge and Moseley
- Public engagement during survey sessions in May and June

Opportunities and challenges

The need for 'perfect' survey weather has limited some opportunities, but despite erratic conditions good periods of survey for target species have been possible. Fencing using available scrub and brash has been aimed at limiting another challenge: boar damage to butterfly breeding habitat. Monitoring will help to detect if this is successful long-term.

Opportunities have included the chance to connect with other project work in open areas, work with volunteers many of whom are aware of local conservation issues (eg the Dean Green Team) and engage with the public about the need for butterfly conservation.

Small Pearl-bordered Fritillary butterflies are one of the Forest's most endangered species; it is hoped that timely recording effort and habitat improvement will prevent this important species from losing its last habitat and disappearing from the area. A key opportunity of this project is therefore to observe in a relatively short-term how the population is responding to management - and to make improvements accordingly.

Results so far

From the ecology contractors' report for Spring 2019:

Work on this project has continued to proceed smoothly although survey for target Lepidoptera has been hindered to some extent by prolonged unfavourable weather conditions for much of June. However, seven days' survey was possible during the current period. This was mostly carried out in good to ideal weather conditions. Exceptionally high numbers of Wood White have been recorded, mainly in the Foxes Bridge and Settling Ponds areas at Cinderford Ruspidge Halt. Around 65 individuals were recorded here during two visits on 21 May and 17 June 2019. Also, 2 individuals were seen on 21 June 2019 at Serridge, in an area with potentially suitable breeding habitat. Small Pearl-bordered Fritillary numbers are also better than in 2018. The butterfly has been recorded at Cinderford Ruspidge Halt and at Moseley during 2019.

At Cinderford Ruspidge Halt, a maximum count of 16 Small Pearl-bordered Fritillary was made during a Dean Green Team survey on 4 June 2019 and further individuals were noted on 17 and 20 June 2019. All were recorded near to the known breeding areas with the exception of one at Foxes Bridge Colliery where a single male was seen on 17 June 2019. This was in an area of potentially suitable breeding habitat which has been considerably enhanced by conservation work carried out by the Dean Green Team during winter 2018/2019. The known breeding areas for Small Pearl-bordered Fritillary at Cinderford Ruspidge Halt were found to be in particularly good condition. Violet density and Bracken litter condition within the recently stock fenced area at Cinderford Ruspidge Halt are fine and the extent of the potential breeding areas here has been successfully enlarged by targeted scrub removal.

Despite the good condition of the habitat it should still be a priority to introduce controlled grazing in this unit if at all possible. At Moseley, approximately 17 Small Pearl-bordered Fritillary were seen at Brandrick's on 5 June 2019, 5 by the Dean Green Team on 18 June and a further 8 on 21 June 2019. Less positively, searches of potentially suitable habitat elsewhere in the Mosely area have so far proved unsuccessful although further survey will be carried out here. In the Mosley area, violet density and Bracken litter condition are also very good in many parts of the site and it is particularly encouraging to find that some former breeding areas badly damaged by pig rooting at Brandrick's and Moseley Ditch are beginning to show good signs of recovery.

No Small Pearl-bordered Fritillary have been recorded so far at Gorsty or Serridge during 2019. At Gorsty, very little potential Small Pearl-bordered Fritillary now remains, with most of the potentially suitable habitat found in 2018 now too overgrown to be suitable. At Serridge, further ride-side scrub removal and the cutting of a box junction at Serridge Green have made positive contributions of the suitability of the site for Small Pearl-bordered Fritillary (and other target Lepidoptera). However, former large areas of potentially suitable breeding habitat found to the east of Serridge Green during 2018 have now been largely destroyed by extensive pig rooting.

Of the other target Lepidoptera, Dingy Skipper and Grizzled Skipper were recorded at Cinderford Ruspidge Halt and Gorsty although, so far, no Drab Looper have been seen at any site during 2019. Progress is slow with the colonisation by vegetation of the "butterfly banks" at Cinderford Ruspidge Halt and no real habitat for target Lepidoptera has yet developed on the banks themselves. However, the unbanked areas are now beginning to produce areas of potential breeding habitat for Small Pearl-bordered Fritillary, Dingy Skipper and Wood White.

Veteran trees history

Lead partner: University of Worcester

Background

This project aims to understand why and where old trees have survived. Using the trees as a source of information we want to understand how the Forest came to develop over the past 400 years. The project is not linked to any one habitat network, although the association with human activity often puts it within the Rides and Corridors network. It links the biodiversity projects with built heritage, human culture and the history of the Dean.

The current Forestry England database for notable trees holds some information on around 1300 trees; most are trees of special interest, species unique to the forest, parts of rides or specimen trees. Only around 400 are veteran or notable trees. Of these most have records that are incomplete and none has information relating to the health of the trees. We aim to improve the records so that all trees have a confirmed location, species and girth.

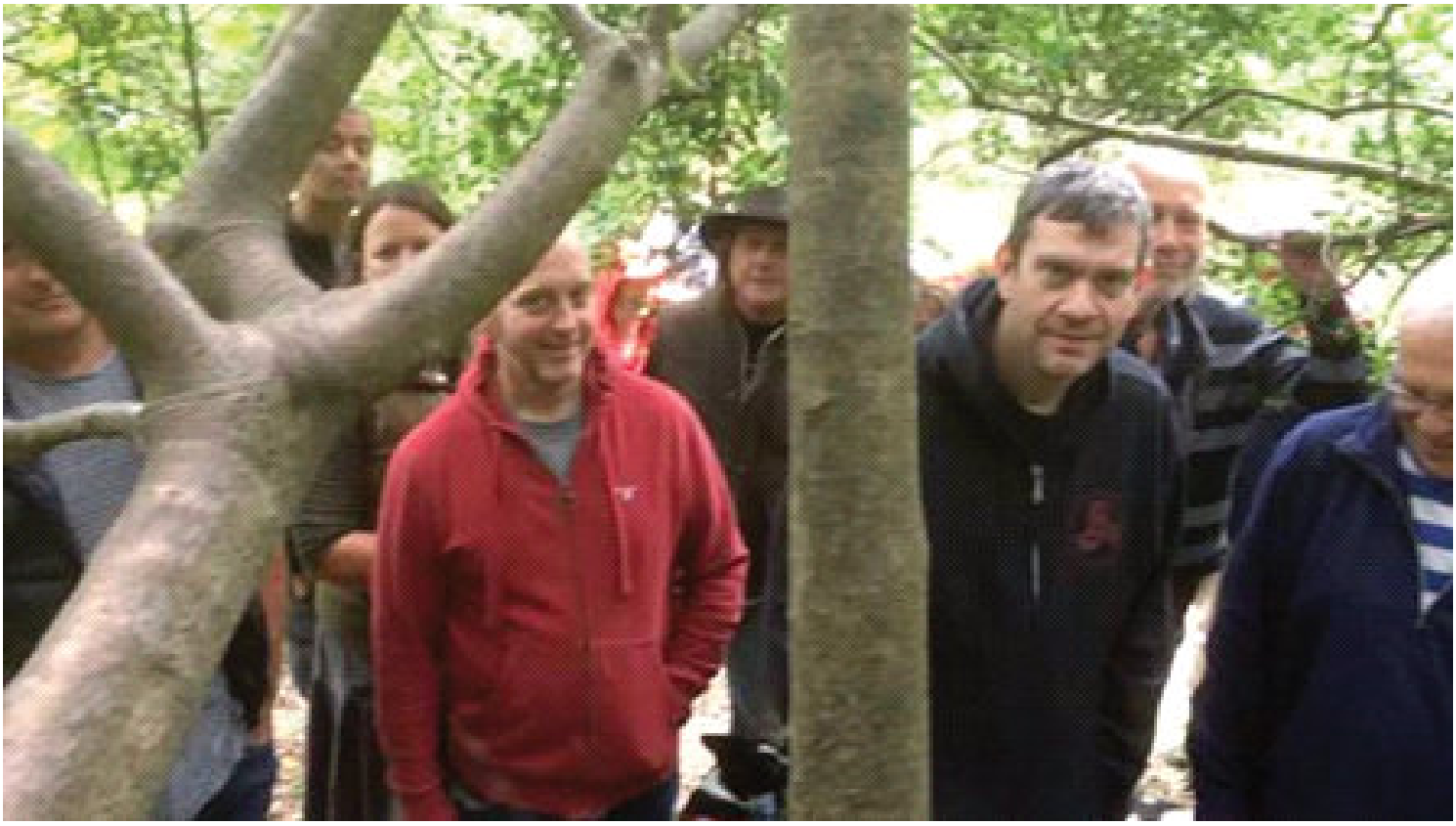
The project aims to record and understand how people used the trees of the Forest, this includes how trees are used as memorials to famous events and people, how people used trees to write graffiti on to record going away to war or for love affairs. How trees are cultivated and harvested through time. We want to record the many avenues of trees that were planted and are now lost or unrecorded.

With this information, the project aims to tell the story of how the Commoners, Free-miners and others, together with the Crown, managed and created the woods we see today. In addition, by recording the location and condition of the trees, the project will contribute to their conservation and survival to inspire a new generation. Synthesising the record of the trees together with the archaeological remains and documents will allow us to write a new community history of the "Great Trees" and people in the Forest.

Project work focuses on helping the local community to identify, record and conserve the veteran trees and related archaeological features of the Forest, to enhance the records and management of these trees and use them to help the community understand their heritage.

Key events and activities

- September 2018: trees talk and publication of tree articles



- March 2019: Working with schools. Presentation at Forest of Dean Local History Society, with Lydbrook School

Results so far

315 trees have been surveyed and logged, comprising 9 species. These 'old favourites' are Oak, Hawthorn, Holly, Birch, Beech, Crab apple, Hazel, White Willow, Goat ("Pussy") Willow and Yew. In addition to survey work several events were held, introducing volunteers to tree survey techniques and presenting the work of the project to the local community. The distribution of trees surveyed is shown below:

Community Wildlife Study Group

Taking biodiversity surveys into the future

The idea of forming a self-sustaining study group for the Forest of Dean, linking all volunteer biodiversity project activities, emerged from the Development Phase of the Foresters' Forest. It has become a central principle of the volunteer effort: a group which will be established by the end of the five years which will continue and build on the work of the Programme to create and maintain a comprehensive account of the Dean's wildlife.

The group will be managed by Gloucestershire Wildlife Trust, who have considerable experience of working with local people who wish to survey their local area. Work includes:

- Establishing an annual survey programme
- Developing and running a series of events and activities to enthuse local people
- Developing skills and knowledge of a wide range of wildlife subjects
- Confirming objectives and outcomes of different projects
- Establishing a baseline
- Identifying and employing appropriate methodologies
- Recruiting, training and supporting local people to carry out the surveys
- Collating and reporting on results

Photo: Mervyn Greening

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