

Photo Credit: Chris Carter

Annual Report 2020-21

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1.0 Introduction

The Northamptonshire Biological Record Centre (NBRC) is a not-for profit, impartial, independent provider of biodiversity and geodiversity information. The centre launched in 2006 for the custodianship and provision of biological data in Northamptonshire. The centre is one of nearly fifty county-based Local Environmental Records Centres operating across the UK whose collective aim is to support biological recording, data curation and provision of environmental information for decision-making. The centre acts in collaboration with other regional local record centres including regular representation at East of England LERC regional meetings.

The NBRC are current members of the national Association of Local Environmental Records Centres (ALERC), the National Biodiversity Network (NBN), the National Forum for Biological Recording (NFBR), GeoConservationUK, and the county's Biodiversity Partnership and Local Nature Partnership.

Our Steering Group, is Chaired by Dr. Duncan McCollin, Visiting Fellow, University of Northampton and comprised of a range of interested parties representing service level partners including statutory bodies and local councils, environmental charities, biological recorders and researchers. The group meets three times a year to oversee and support NBRC strategic direction.

The NBRC is hosted by the Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire (Wildlife Trust BCN) in their Northampton Office. Due to the coronavirus pandemic all staff and volunteers have been based remotely during this year.

Northamptonshire Biodiversity Records Centre

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Our website http://www.northantsbrc.org.uk/ includes our current approved organisational policies.



1.1 NBRC Aims & Objectives

Our Vision

A modern, effective & trusted centre for local wildlife recording and biodiversity information access

Our Mission Statement

The Centre exists

To champion and support all aspects of biological recording in Northamptonshire, by;

- offering a local facility for the collection, validation, verification, collation, storage, analysis, sharing and use of environmental data;
- providing access to an effective evidence base to guide strategies, plans and decisions that have potential to impact on biodiversity; and
- sharing biodiversity information more widely;

in order to

- increase understanding of the natural environment, and
- ensure that development and natural resource management achieve better, more sustainable outcomes within and beyond the county.

Our Values

Independent, straightforward, helpful and evidence-led, we are honest, professional, and impartial in the services and support we provide to all. We are committed to:

- Working collaboratively with others;
- Promoting and valuing the efforts of the county's biological recorders and organisations that utilise biodiversity information;
- Being a learning and enabling organisation;
- Developing our services, technical skills and information infrastructure to continually meet a range of user needs;

- Conducting our business with integrity in an open, honest, transparent and accountable way;
- Making the most of available information whilst recognising its imitations and seeking future improvements;
- Recognising and investing in our staff and volunteers as our greatest resource.

Our Objectives

Ensure access to quality biodiversity information through developing our skills and services to meet the needs of environmental decision makers, maintaining data quality and security and continually achieving operational financial security.

Continually enhance the breadth and depth of biological and environmental information held in our database through engaging, supporting and developing volunteers skill in recording activity, building effective sharing relationships and enhancing our database with both recent and historic coverage.

Improve and maintain effective operational standards, policies, procedures, and reporting in accordance with National Biodiversity Network (NBN) and Association of Local Environmental Records Centres (ALERC) guidance.

1.2 Partnerships & Collaboration

The NBRC Steering Group comprises of representatives from the following partner organisations & groups. Steering group meetings are held three times annually to support and guide NBRC operations and strategic direction.

Anglian Water Northamptonshire County Recorders

Canal & River Trust Natural England

Environment Agency University of Northampton

Forestry Commission Thames Water

Kelmarsh Hall South Northamptonshire Council

Moulton College Wildlife Trust of Bedfordshire,

North Northamptonshire Council Cambridgeshire & Northamptonshire

Northamptonshire Natural History

Society

We hold collaborative data sharing partnerships with the Wildlife Trust of Bedfordshire, Cambridgeshire & Northamptonshire, the People's Trust for Endangered Species, Natural Capital Solutions and with the majority of Northamptonshire's county recorders and groups (this includes recording schemes such as Butterfly Conservation). A full list of NBRC data sources is provided with our data reports and on request.

1.3 NBRC Staff

In 2020-21, the NBRC was managed by Rosalind Johnston, and staffed by data officers Nathalie Hueber, James Skinner and Rachel Tate. Josh Hellon, Monitoring and Research Manager continues to provide line management for all three Wildlife Trust Bedfordshire, Cambridgeshire & Northamptonshire hosted Local Environmental Record Centres.

Centre Manager

Rosalind Johnston

Data Officers

Nathalie Hueber

James Skinner

Rachel Tate



Salcey Forest NBRC Team Fungi Walk with Mike Taylor ©Rosalind Johnston

Professional Development

The Wildlife Trust BCN have updated their financial systems and the team were trained and supported in the transition to Xledger. The team have used online courses, talks and conferences for learning and continued development in: wildlife survey and identification, development of technical skills & keeping up to date with National and Regional LERC business. Staff have completed flight hours and skills development to meet CAA approved professional drone pilot licence. The team also had break from the homeworking for an autumn team day out in Salcey Forest to develop our identification skills with local expert fungi recorder Mike Taylor.

Conference & Meetings

ALERC Conference, NBN Conference, NFBR Conference, Wildlife Trust Monitoring & Research Conference, Local Wildlife Sites Panel Meeting, Wildlife & Countryside Link Meetings, East of England LERC Meeting (Oct & March) & Ox-Cam LNCP Wider Stakeholder Meetings.

Workshops

(BSBI) 'Intro to Aquatic Plants', 'Charophytes' & 'Vegetative Grasses'; (Wildlife Trust BCN) 'Stonewort Identification', 'Solitary Bees' & 'Vegetative Grasses'; Hedgerow Survey (PTES)

Development & Training

CAA Commercial Drone Pilot Licence Renewal, Online Technical Specialist Courses (Data Camp, OSTraining and W3Schools), iHasco courses & Xledger internal training

County Recorders & Volunteers

NBRC long-term volunteers continued to support us in data digitisation, as overseen by Rachel Tate. Volunteers completed H&S training for homeworking and Rachel worked with them to ensure they were supported in this unusual year. As one of our volunteers has been coming into the office once a week for over 10 years, its' a big shift! The Northamptonshire Wildlife Trust card digitisation project was designed for volunteers to be able to work from home with some visits to the office for scanning documents and checking queries about difficult to read/illegible information on the recording cards. With office access no longer possible, Rachel uploaded scan documents for our volunteers and digitisation has continued without any problems.

The commitment and dedication of all volunteers has been humbling - we look forward to welcoming those that want to return to office access for from September 2021. Our volunteers collectively have gifted 295 hours of their time to validate records and progress historical data digitisation of recording survey cards – a project we expect to move into the validation stage in 2022-23.

Northamptonshire's County Recorders use their expertise in verification of records, data collection and wider engagement in a voluntary capacity, gifting hours of their time and skills, in order to support quality underpinning ecological data for the county. We share and exchange records on a regular basis with volunteer county recorders including; bryophytes (mosses and liverworts), both macro and micro moths, butterflies, water bugs, diptera (true flies), birds, hymenoptera and amphibians and reptiles. We also have county recorders for; vascular plants, mammals, dragonflies, beetles, plant galls, arachnids and lichens. The team set a meeting with Northamptonshire County Recorders at least twice a year, this year, facilitated virtually. Due to the pandemic we postponed our annual recorders BioBlitz this year and aim to hold in the event instead in summer 2021.

2.0 Key Achievements 2020-21

2.1 Data Holdings Summary

Sites

Nathalie of the NBRC team manages and updates the information held in the sites database. Local Wildlife Sites are visited, surveyed and reviewed annually. Designations are agreed by an expert selection panel based on LWS site assessments. We manage this information collaboratively in the local sites database with our partners the Wildlife Trust BCN. Wildlife Trust BCN staff arrange and manage site survey, timed to capture indictors of condition and are aided in this by the NBRC's experienced botanist Nathalie. Thirty-one Local Wildlife Sites were assessed May-August in 2020. Thirty new and/or updated LWS citations have been created from this survey.

Table 1 Sites information held in NBRC database (updated April 2021)

	Number of Sites
Non Statutory Sites	
Local Wildlife Site	714
Potential Wildlife Site	1104
Local Geological Sites	55
Potential Local Geological Site	9
Protected Wildflower Verge	29
Pocket Park	81
Wildlife Trust Reserves	37
Statutory Sites	
Site of Special Scientific Interest	57
National Nature Reserve	2
Local Nature Reserve	18

Nathalie continues to improve the LWS database, and has performed checks and corrections on 615 LWS citations out of the 714 held (86%). NBRC staff, working with the Local Geological Group, have updated and agreed boundaries for 3 sites based on site visits during 2020-21.

Habitats

NBRC habitat data is collected and managed in collaboration with NBRC host and partner the Wildlife Trust BCN. GIS layers of 14 Biodiversity Action Plan (BAP) habitats and four layers of additional habitat data are held covering all LWS and SSSI sites in Northamptonshire. In spring 2020, Rosalind and the Wildlife Trust Wider Countryside team reviewed and updated information gained in 110 sites, incorporating the last three years of survey information (2017-20).

The NBRC have signed agreement with Natural Capitol Solutions (NCS) to host 27 modelled layers, including a habitat basemap (based on 2017 habitat data), mapped Ecosystem Services demand and capacity, and Habitat Opportunity layers for woodland, wetland and grassland. These will be made available as a supplementary part of our data request service. These will be only supplied with annually updated current information, and are intended for use in conjunction with trained ecologist oversight in planning and implementation.

Table 2 Habitats information held in NBRC database (last updated April 2021)

BAP habitats	Area (ha)
Acid Grassland	165
Calcareous Grassland	267
Eutrophic Standing	
Water (+2ha)	1617
Floodplain Grazing	
Marsh	1150
Lowland Fen	146
Lowland Heathland	2.5
Lowland Meadow	744
Lowland Mixed	
Deciduous Woodland	4696
Open Mosaics	185
Purple moor grass &	
rush pasture	0.8
Reedbed	34

All habitats	15947.3
Total Other habitats	6523
Total BAP habitat	9424.3
Undetermined Woodland	4830
Undetermined Grassland	1221
Scrub	295
Other Open Water	177
Other Habitats	
Parkland	225
Woodpasture &	
Wet woodland	186
Traditional Orchards	6

Species

The NBRC database currently now holds 1,263,404 million species records (of these over 1 million are verified), covering 11794 species in 57 taxonomic groups species records in R6. James manages this data and ensures quality through **validatation** (checks on the "completeness" and accuracy of the record) and **verification** (expert assessment of the accuracy of identification for confidence in the observation) where supported a national or county recorder, on all received records before incorporation into the NBRC Recorder6 database*. In rare cases where verification is not possible, the records are omitted until they can be assured or entered as unverified (to be taken into account in decision making) until this can be corrected. This quality assurance process is imperative to deliver reliable robust information for confident data led ecological decision-making. 'historical records may not have all undertaken the full quality procedure as we now have in place for database incorporation.



In 2020-21 195,000 records were added, including:

- 3832 records added as generated through our website since launching this recording facility (with any county data set duplicates removed).
- 2852 records from the 2019 Local Wildlife Sites surveys 2020 LWS Survey
- 40 datasets received in 2019 of which 50% of the data sets have been added to the database having passed quality check, ~80% of received data has been validated ready for verification.
- Continued progress on the huge plant dataset (450,000+ records) received in 2016. In 2019 arable locations were prioritised due to stakeholder need.

Northamptonshire benefits from a wealth of expertise from our county recorders who work with us in annual updates for their taxon groups. We requested a review

of statuses (incl. national and local status) by county recorders this year to ensure the correct rare species are identified and picked up in our protected and notable layer, both moth and waterbug status' have been updated as a result.

Table 3 Species information updates in NBRC database (updated April 2021)

County Dataset	Current date of records in R6	Last time updated in Recorder 6	Planned Update	
Bryophytes	November 2019	Spring 2021	Current & aim for annual update	
Butterflies	December 2020	Spring 2021	Current & aim for annual update	
Diptera	November 2017	Autumn/Winter 2018	Priority Autumn/Winter 2021	
Moths	December 2019	Spring 2021	Current & aim for annual update	
Water Bugs	December 2016	Spring 2017	Priority Autumn/Winter 2021	
Plants	October 2015	March 2021	Priority, in progress *large dataset	
Dragonflies	November 2003	March 2004	Current dataset with county recorder	
Birds	December 2018	January 2021	In progress and ongoing in 2021-22 *large dataset	
Hymenoptera	May 2020	February 2021	Current & aim for annual update	
Amphibians & Reptiles	Period spanning 1905 - 2016	2017	GCN data up to date. New county recorder in post.	
Fungi	National scheme contacted for database access		When received	
Lichens	National scheme contacted for database access		When received	
Mammals	There is a county record there is currently no ex		Working with PTES, Northamptonshire Badger Group and Wildlife Trust BCN.	
Coleoptera	There is a county record there is currently no ex	~ .	Uncertain	
Trichoptera	No county recorder for dataset received.	this group National	National dataset received in 2019. In progress	
Spiders	There is a county record there is currently no ex	• •	Uncertain	

^{*} We do not have county recorders for Hemiptera & Orthoptera and therefore do not have a planned update

2.2 Biological Recording & Engagement

Website, Newsletter & Social Media



Figure 1. Updated NBRC Website front page

The website is managed by NBRC staff, with ad-hoc consultant support. During 2020, new Drupal 8 SSL secure website was created by a consultant developer. Rachel migrated the NBRC website across and the website was redesigned to improve accessibility, navigation, responsiveness on all viewing formats (PC, tablet and mobile) and to align design with our hosts the Wildlife Trust. This update was funded by the Environment Agency as part of our hosting of a new 'Look out for...Ponds' survey – the first habitat based survey ran by the NBRC. Clook hosts the site, with domain name from Namesco. In 2021, the team reviewed) NBRC's Privacy Policy and Terms of Use (no update required) and ensured online systems continue to meet GDPR.

The species records (and recorder details) input onto the NBRC website are stored securely on a virtual warehouse that is owned and managed by the Biological Records Centre (BRC). The targeted 'Look out for...' species surveys with their ow specified format of recording form as produced by Rachel, have been ran for swifts, badgers, rabbits and beefly over the year. In January 2021 the NBRC also supported SPA monitoring (with Natural England, Wildlife Trust and local birding community) with a call for high quality sightings of golden plover and lapwing. The unrecorded 1km 'gaps in the maps' were updated for 2020 and promoted with the cloud based online map which has been accessed over 700 times over the year. This motivated recording effort to 'fill' over 130 squares since launching as part of the WILDside project. The team

continually work towards an aim of biodiversity data completeness and robustness-historic, taxonomic and geographic.

The NBRC newsletter was produced in July 2020 & February 2021 with recorder articles, centre updates and wider NBN and LERC news. The Newsletters are available on the website, circulated via the NBRC mailing list, Northampton Library Central distribution, posts in Facebook local groups and retweets. The pond survey was promoted additionally within the Trust Monitoring and Research Newsletter, in the Wildlife Trust Magazine and through the council intranet. NBRC social media continues to grow with 661 followers (Feb 21) on the NBRC twitter account (@_Northants_BRC) and an active WILDside Recording Community Facebook group with 200 member (Feb 21).

Recording Bioblitz, talks, and events'

The NBRC are following government guidance and supporting the NHS within the current pandemic through no planned 'in person' events in 2020. Kelmarsh Estate welcome a postponed Bioblitz over summer 2021 and the NBRC aim to hold this event if possible, safely and in line with government guidance. The team are keen to hold a Northamptonshire Recorders Conference event when we are able to. We joined a number of online conference NBN, NFBR, ALERC and presented at the Wildlife Trust Monitoring and Research conference, sharing the local recording community impact from species focussed 'Look out for...' surveys. As requested and supported by Titchmarsh Parish an 'Introduction to Recording' online workshop was held, on MS Teams by Rosalind, Ryan Clark and Matt Johnson of the Wildlife Trust for Bedfordshire, Cambridgeshire & Northamptonshire to support their recording in this adjacent region to the Special Protection Area (SPA) .









WHY WE RECORD WILDLIFE

LOVE OF

WILDLIFE. LOVE OF THE OUTDOORS. TO INFORM RESEARCH AND CONSERVATION. LEARNING,

LEARNING, SHARING AND BUILDING KNOWLEDGE. LOVE BEING OUTSIDE IN GREAT COUNTRYSIDE WITH AN OBJECTIVE THAT MAKES A POSITIVE CONTRIBUTION * I CAN REVIEW CHANGES YEAR BY YEAR * I ENJOY LOOKING FOR AND IDENTIFYING SPECIES * I ENJOY WATCHING ANIMAL BEHAVIOUR (BIRDS) * I ENJOY BEING OUTSIDE, RECORDS DOES ANYONE HERE: RECOGNISE THE VALUE OF DOES ANYONE HERE: RECOGNISE THE VALUE OF RECORDS THE WATCH WILDLIFE PROBLEM ACROSS AND RECORDING * THEWATCH WILDLIFE PROBLEM ACROSS AND WITH AN OUT OF WITH EACH WILDLIFE PROBLEM ACROSS AND SECOND WHAT HAS TAT Share this information? DED AREAS LIKE THE SOUTH WEST OF THE COUNTY * INTELLECTUAL CURIOSITY * INTEREST AND CONCERN FOR THE FUTURE * INTEREST IN THE SPREAD AND DIVERSITY OF SPECIES IN MY LOCAL AREA * INTEREST IN TAXONOMIC GROUP (ALGAE) * INTEREST IN THE WORLD AROUND US AND ECOSYSTEMS * INTERESTED IN WILDLIFE MY ENTIRE LIFE

Introduction to Biological Recording

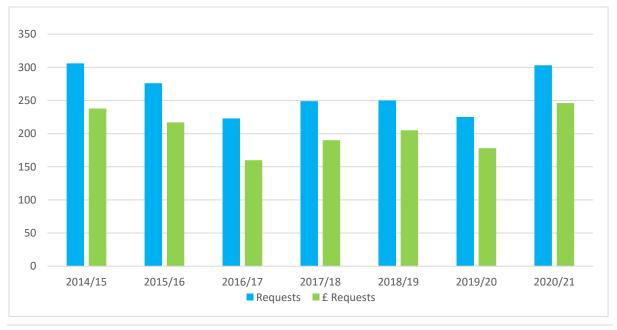


2.3 Data Services

Information Requests

At the start of 2020-21 the NBRC updated (after a gap of 5 years) the service rate for enquiries, with a rise calculated based on the average number of commercial requests and to meet the year-on-year increases to running costs of the centre. This includes required equipment, training and staffing; charging to sustainably meet the costs of the data service on a fair and not-for-profit basis. Our standard charges are calculated on the basis of the number of sites within a search area. We have found this is the most accurate way to estimate staff time per search without impacting the radius of the request and therefore data used by consultants using our service. Thus depending on the location a 2km search can cost the same as a 1km search. To further support consultancies in meeting sufficient information for ecological decision making whilst charging fairly for staff time and infrastructure, the charging policy was updated in August to place a clear price cap on 2km central searches so that regardless of number of sites the charge quoted would not go beyond 2 hours. The intention is to keep this pricing level stable for 3-5 years, as we have in the past, with interim reviews as needed. The team have adapted to securely accessing and producing data reports to meet data requests whilst working remotely though-out the year. The demand throughout the East of England region for biological information has been high, for the NBRC meeting the highest level of requests received since 2014/15 with 303 reports provided (commercial & non-commercial). Despite these challenges the data team met reporting requirements for paid requests averaging 6 days from response to completed report, and all requests prior to individually agreed deadlines.

Figure 2. Number of commercial and non-commercial data requests received by the NBRC 2014-2021 (by financial year)



Data Service Level Agreements

All partners received timely annually licenced data GIS layers and reports (habitat, species, sites as requested) to meet the terms of partner agreements. At the end of the financial year Northamptonshire became a unitary council, the annual service was continued for a further year with the expectation of whole county coverage from next year. A few new one-year data licences were also agreed this year.

Table 4. Service Level Agreements in place with NBRC (from 2020 to 2023)

	2020-21	2021-22	2022-2023		
Environment Agency	Agreed until 2023				
Thames Water	Agreed until 2021 Finalising new agreement until 2026				
Anglian Water	Agreed until March 2025				
North Northamptonshire Council	Agreed until 2022		Review next year		
West Northamptonshire	Agreed until 2022		Review next		
Council (South Northamptonshire District)			year		

Drone Service

Since April 2019, the NBRC have offered a drone service for Northamptonshire. Due to government restrictions no commercial bookings were planned this year. Pilot flight hours were maintained by our trained and CAA commercially licenced pilot, Nathalie. Planned project work, was scheduled and completed when restrictions allowed, to meet the terms of final year of Bigger Vision and River Monitoring project for the Environment Agency.



Figure 3. Close up comparison of drone (300ft) image and Google aerials

2.4 Organisational Partnerships & Development

Governance

The NBRC works collaboratively with regional Record Centres within the East of England. Staff attended the October and March meetings with this group and two members of staff attended the ALERC 2020 conference, all held virtually. In addition, staff joined the NBN 2020 and NRBR 2021 conferences.

The NBRC works to NBN guidelines, our Steering Group approved, Policies and Procedures are available on our website, as reviewed in line with NBN and ALERC guidance for best practice. Internal procedure documents are living documents, held used and improved by the team regularly. An up to date Disaster Management plan is maintained and discussed along with all NBRC updates in our Steering Group Meetings, as were held virtually in July '20, October '20 and February '21.

Our aim is to ensure the NBRC operates effectively and meets the criteria for submission to gain ALERC accreditation in 2021-22.

IT infrastructure

The team took office equipment computers & monitors home from late March 2020, occasionally accessing the office in order to set up secure server connection to the database and reporting tools, for scanning to digitise historic records, and for post. Staff working stations were set up at home and equipment purchased where needed. With use of MS Teams the NBRC team kept in touch regularly and were able to continue to host and join wider meetings. We use MapInfo and Recorder 6 to generate biological reports, and have used QGIS in the production of the parish level Natural Capital Solutions modelled Maps. The NBRC server was moved to Cambourne from Lings Wildlife Trust Offices for security.

Ancient Woodland Inventory Update

In Summer 2020, the record centres for Bedfordshire, Cambridgeshire and Northamptonshire were approached as part of a national project coordinated by Natural England and funded by the Woodland Trust to update the Ancient Tree Inventory. This prior mapped ancient woodland layer was produced in the 1980s, this update would take account of woodlands greater than 0.25ha and use local knowledge to ensure accuracy in the final Open Data layer. The record centre has been tasked with Phase 1 & 2 stages of this work between December 2020 and October 2021. James has managed delivery of this project, using epoch 1, latest aerial and master maps and checking/ updating the digitisation of presence of woodland 'i.e. possible ancient' including small woodland across these. In 2021, Natural England will move to their next stage of phases 3&4, for archive verification and ground truth survey, which

the NBRC will support through our local network to aid in sourcing resource and skills. The result will be a new up to date 'open' layer hosted by Natural England.

Environment Agency Projects

In March 2020, the Environment Agency awarded the records centre grant funding for 'Look out for...Ponds', a habitat based citizen survey to help fill the gaps of information within the existing habitat database. Rosalind developed both paper and mobile survey forms for data collection (epicollect and Qfield) whilst we engaged a consultant to develop a new Drupal 8 platform for NBRC website migration. Rachel worked to move the content across, getting to grips with the new platform in the process and setting up the survey on the new SSL secure website. This survey was launched in January 2021 and shared with: NBRC steering group partners, in the Wildlife Trust Monitoring and Research blog, in the NBRC Autumn/Winter Newsletter, in the Wildlife Trust Magazine and directly to relevant county recorders. Working with Northamptonshire Water Bug recorder Kevin Rowley, the new tools are being used to gather location, boundary and condition information. We will consolidate the gathered information to build a growing map of pond habitat in Northamptonshire and aim to aid projects such as Great Crested Newt presence modelling in the county.



Figure 4. 'Look out for... Ponds' promotion for social media

NBRC's Environment Agency funded Bigger Vision & River Monitoring Project completed in December 2021. Over 4 years the Record Centre has built the tools, skills and experience to deliver professional aerial photography, video and topographic 19 | Page

analysis to support habitat management. Delivery of monitoring, and before/after evidence for Environment Agency led river restoration and management projects on the Nene. With the Bigger Vision Funding, we purchased professional DJI Phantom 4 Pro drone with ipad mini for programmed missions and live video feed. The drone is equipped with a 20 megapixel camera capable of high definition 4k/60fps video flown up to an altitude of 400ft. The professional use drone with has full visual range, obstacle sensors and a flight time of up to 30 minutes. Site safety equipment was purchased including carrycase and trolley transportation.

From 2017-2018 NBRC Data Officers Nathalie and Rachel completed ConsortiQ UAV Ground School Training, self-learning gaining their theory qualification by December 2017 and funded practical training time to gain their full Unmanned Aircraft Qualification Certification. Staff were added to the Wildlife Trust PfCO licence in June 2018. Nathalie holds current commercial pilot status and in order to meet industry standard she has completed practical Continued Professional Development (CPD) regularly. Pilots and equipment are insured under Wildlife Trust BCN policy. We have agreement with Natural England for regular access to a private site for this purpose.

In early 2019 we met with the Environment Agency and showcased collected aerial imagery, including 3D and video footage, Precision Mapper processed normalized difference vegetation index (NDVI) and orthomosaic images to discuss use in River Restoration project work. We were put in touch project partners with whom we liaised to collect the imagery and footage to support their project work.



Figure 5. High Definition 4k footage at Fotheringhay (July 2020)



Figure 7. Site 3D Orthomosaic as viewed in QGIS3.4 (July 2020)

Through delivery of these projects the team developed in their skills to capture whole site orthomosaic imagery (including over water, and with georeferencing) at up to 300ft, 360° Panorama, smooth capture of aerial video footage, collection of 3D imagery and stitched 3D site models, and precision through specified Ground Sampling Distance (GSD) height calculations. A range of software has been used for post processing, and now the team typically use Pix4D, Maps Made Easy, and Microsoft ICE. Nathalie and Rachel have now delivered projects in a range of environments, dealt with hazards confidently and safely, meeting (and keeping up to date with) the CAA flight legislation.

Habitat Opportunity & Ecosystem Services

The NBRC are working with Natural Capital Solutions to pilot supplementary local level report production of modelled ecosystem services and habitat opportunity in Northamptonshire. James has trialled set up of the 27 modelled layers in QGIS. He has produced the layout and report maps in a pilot, and documented the processes he used to deliver the maps at parish level.

Parishes involved in the trial found the maps to be beneficial for consideration of their local neighbourhood and green infrastructure planning. In 2021, this will be developed as a new 'add on' service for the NBRC. The whole data team will train in the report production, as led by James, and refine the service product. NBRC will work with Natural Capital Solutions to refine and produce a handbook (for use with professional ecologist support) to guide interpretation of the maps. This modelled information will be supplied with, and should be used in conjunction with, current data on sites, species and habitat.

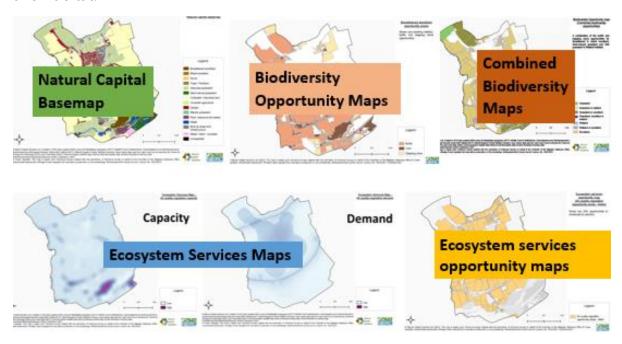


Figure 7. Parish maps as produced for the pilot of a 'local level' service (Feb 2021)

3.0 Finances 2020-21

Financial Summary 2018-2019	
Reserves end March 2019	£ 40,357
Surplus/(deficit) end of March 2020	£ 15,436
Due is start assume forward into 2021, 2022	6 55 702
Projected carry forward into 2021-2022	£ 55,793
Contingency budget for 6 months	£ 36,900
Carry forward less contingency	£ 18,893
Value of hosting arrangement with WT	£ 5,324

Income £						
	2019	9/2020 Actual	2020	0/2021 Actual	202	1/2022 Budget
Information Requests	£	28,449	£	47,046	£	40,000
SLAs	£	28,393	£	33,935	£	30,414
Project work	£	7,571	£	14.721	£	11.554
TOTAL	£	64,413	£	92.060	£	81,968

Income from data enquiries surpassed the expected funds for the year, with 246 commercial requests met during the year. This was a particularly high service level (not seen since 2014-15) and follows a lower than average year, showing the potential wide fluctuation of data service income. The hourly data service rates were updated at the beginning of this financial year with the support of the NBRC Steering Group. The income and expenditure is reviewed regularly by NBRC management and discussed with the NBRC Steering Group to maintain the data services sustainably. SLA renewals have been agreed for 2021-22, including with Northamptonshire council partners under the new unitary system. The expected agreement for Thames Water SLA continuation (covering the next 5 years 2021-26) is being finalised at present. The NBRC is not-for-profit and in 2022, management will review the contingency and look at reinvestment into the service, where this is beyond the budgeted income expectations for 2020-2025.

In terms of projects, funding was gained from the Environment Agency for the 'Look out for ...ponds' project. This supported staff time in development of survey tools and update to the NBRC website as was delivered by January 2021. The team will gather information from this survey in order to complete mapping update into 2021. This was also the final year of the Environment Agency funded Bigger Vision and River Restoration project, and staff worked to deliver imagery and footage to meet this project need. The legacy of this funding is an established service within the record centre. The aim of this service is to be self-supporting, fairly priced and accessible. In 2021 bookings will be feasible within the year, with the reduction of government restrictions.

Local councils once again supported the annual survey of Local Wildlife Sites in Summer 2020 as delivered in partnership with the Wildlife Trust Wider Countryside team. The Woodland Trust have funded the NBRC role in the national project to update Ancient Woodland Inventory, phase 1 & 2, as received by the Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire. Income is planned to be reinvested income for development of an 'add on' modelled map service this year, with the NBRC acting as host to the Natural Capital Solutions (NCS) Base Map, Ecosystem Services and Habitat Opportunity modelled map layers. A split of this income will be reinvested for NBRC to keep base information up to date and for NCS to complete periodic remodelling.

Expenditure £						
	20	19/2020 Actual	2020/2021 Actual		2021/2022 Budget	
Staff	£	64,432	£	73,542	£	75,833
Equipment (assets)	£	233	£	335	£	1,000
NBRC training	£	1,085	£	137	£	1,000
NBRC travel	£	1,180	£	133	£	800
NBRC volunteers/	£	166	£	-	£	938
contractors						
ALERC, NBN, NFBR &	£	515	£	535	£	550
GeoConservationUK						
membership						
IT Software, and	£	311	£	1,792	£	800
website support						
Telephone,	£	154	£	150	£	200
consumables &						
printing						
Drone service	£	1,052	£	276	£	400
insurance, licences,						
and equipment						
TOTAL	£	69,128	£	76,624	£	81,521

Expenditure on additional salaried time was covered by project work, and all salary rates are in kept in line with inflation increase. The team have benefited from a number of courses including; increased resourcing in online training via Datacamp and OStraining. NBN, NFBR, and ALERC membership continued for another year, with the team joining virtually with conferences and meetings. Following the pandemic the team aim to update first aid training in order to restart Bioblitz and public recording events. Travel and training were significantly lower than expected due to the increase of remote and virtual ways of collaborating. Some equipment was needed in the shift to home working this year, but this was within budget. We expect potential further equipment need to meet 'blended' office access for the following year. The largest expenditure (after salary) over the year was the necessary update of the NBRC website with funding for the web developer consultant to produce the platform and support Rachel in the transition of content to the new site. This spend was approved by the Steering Group as supported by the aforementioned 'Look out for...Ponds' project. The expected budget set out for 2021-22 should be balanced, with sustained SLA funding confirmed and additional staff time covered by the continued Ancient Woodland Inventory project work. The NBRC aim to reinvest in the recorder community through a Bioblitz event and by holding a recorders conference again where possible, planning where the event can be held and when this can be committed to safely.

3.1 Future Plans

Quality current environmental and species data is more important than ever, with upcoming changes expected through the planned UK Environment Bill later in 2021 that will outlay legally binding targets that aim for nature recovery. As a Local Environmental Records Centre we, along with ALERC, will be looking at our data services and adapting to meet data driven decision making in the delivery of local targets and improving how we monitor, capture and report change.

The NBRC will continue to engage local stakeholders and manage the biological information service needs for our partners, consultants, researchers and community groups. The NBRC steering group committee will be kept informed and continue to meet regularly (online for the time being) to discuss and guide the direction, sustainability and growth of the Centre. County Recorder meetings will continue biannually and the team will aim to support the recorder community with virtual engagement and 'in person' where possible. The team will support recorder groups, and are looking to plan a rescheduled Bioblitz in 2021 and future recorders conference in 2022. We intend to develop data sharing partnerships where possible with recorders, conservation and research organisations. The NBRC will also aim to support ecological professional's to submit their data, aiming to make this as accessible as possible.

The team aim to work with local LERC partners in the final preparation and submission to ALERC in support of accredited LERC status during the year. The NBRC intend to maintain financial stability and look at opportunities for development and reinvestment, where possible, in the information service we provide. The team aim to deliver a range of quality data, accessible and relevant to today's environmental and biodiversity challenges.







