



Freshwater Habitats Trust

2020 Highlights



Freshwater
Habitats Trust

Digging Ponds for Biodiversity!

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Nature based measures increase freshwater biodiversity in agricultural catchments

Penny Williams^{a,*}, Jeremy Biggs^a, Chris Stoate^b, John Szczur^b, Colin Brown^c, Simon Bonney^d

^a Freshwater Habitats Trust, Bury House, North Mase, Healdington, Oxfordshire OX3 9TY, United Kingdom of Great Britain and Northern Ireland
^b The Game & Wildlife Conservation Trust, Allerton Project, Loddington, Leic. LE17 9XE, United Kingdom of Great Britain and Northern Ireland
^c Environment Department, University of York, Heslington, York YO10 5NG, United Kingdom of Great Britain and Northern Ireland
^d Environment Agency, Nine Holes, Psychology Lane, Kettering, Northamptonshire NN15 6JQ, United Kingdom of Great Britain and Northern Ireland

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ABSTRACT

This is the first study that describes the effect of adding mitigation measures on the freshwater biodiversity of all waterbody types in agricultural catchments. We measured alpha (site) and gamma (catchment) richness annually over a nine-year period in all the streams, ponds and ditches in three upper-catchments in the English lowlands, and investigated whether freshwater plant biodiversity could be increased by adding: (i) multi-functional ecosystem services measures to intercept pollutants, store water and promote biodiversity, and, (ii) biodiversity-only protection measures. In the absence of measures, all catchments saw a decline in macrophyte richness during the survey (mean species loss of 1% pa, rare species loss of 2% pa). Ponds were a key habitat with a disproportionate influence on catchment trends. Five years after introducing measures, natural colonisation of ecosystem services waterbodies (dammed streams and ditches, runoff ponds, flood storage ponds) largely cancelled-out the background loss of plant species but, importantly, did not restore the loss of rare plants. Adding clean water ponds as a biodiversity-only enhancement measure brought substantial benefits: increasing total-catchment richness by 26%, and the number of rare plant species by 181%. Populations of spatially restricted species also increased. Adding stream debris-dams as a biodiversity measure did not affect plant richness or rarity. The findings suggest that ecosystem services measures could bring some biodiversity benefits to agricultural catchments. However, creating clean-water ponds specifically targeted for biodiversity could hold considerable potential as a tool to help stem, and even reverse, ongoing declines in freshwater plant biodiversity across farming landscapes.



THE UNIVERSITY of York



In April we published the results of new research on the unprecedented benefits for freshwater biodiversity of creating clean water ponds . . .



Digging Ponds for Biodiversity!



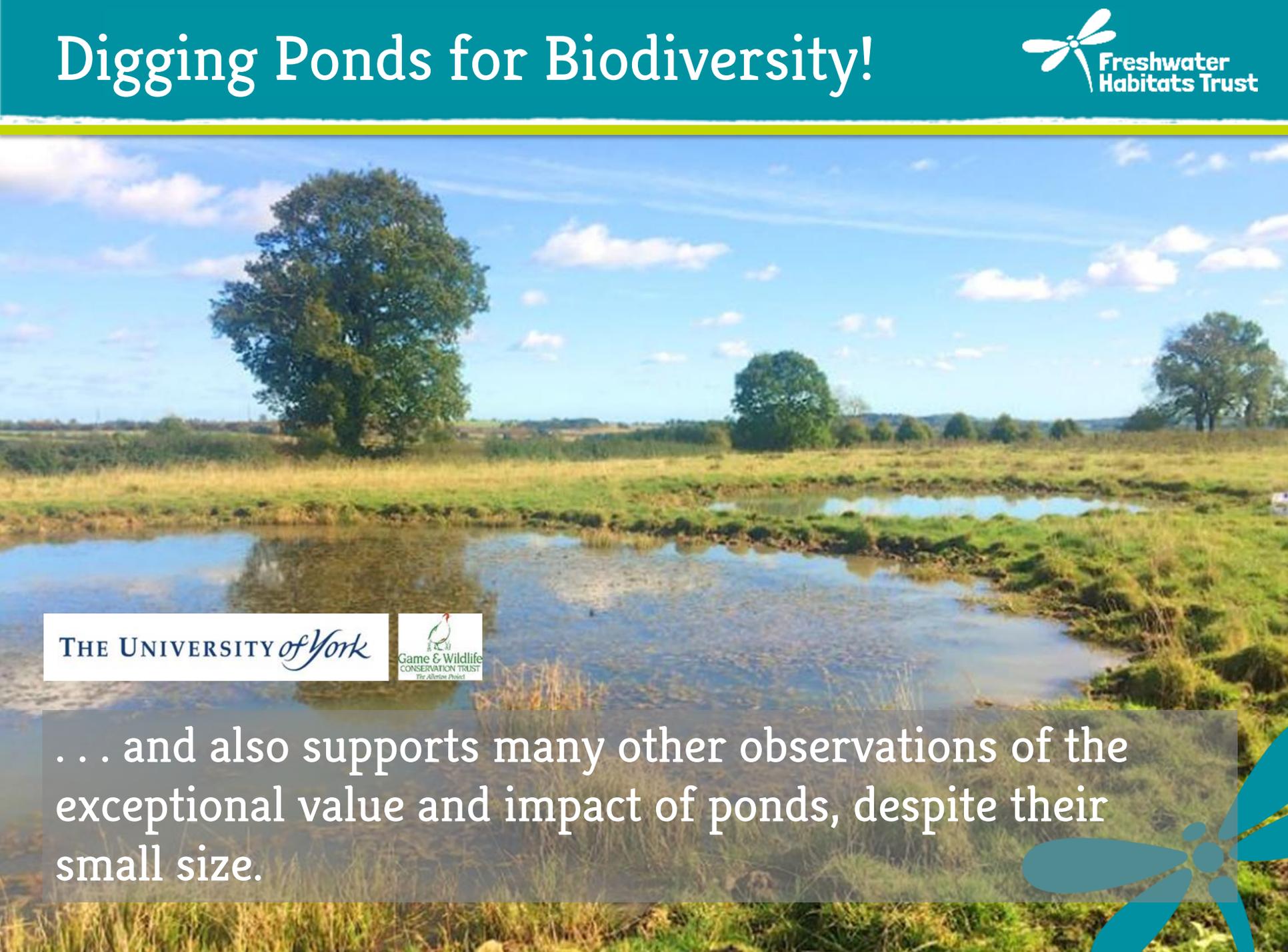
THE UNIVERSITY *of York*



... this is the first study that describes the effect of adding mitigation measures on true landscape scale freshwater biodiversity in agricultural catchments.



Digging Ponds for Biodiversity!



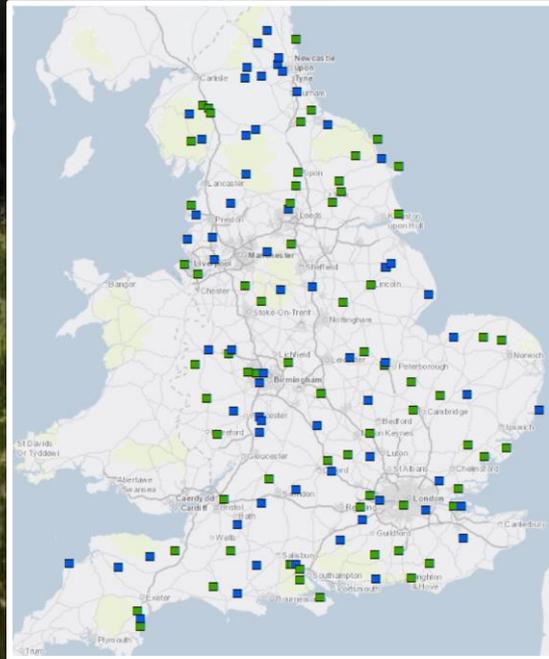
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... and also supports many other observations of the exceptional value and impact of ponds, despite their small size.



PondNet eDNA Survey



In June we completed the sixth national survey for great crested newts using eDNA. We surveyed 380 ponds in 131 randomly selected 1 km grid squares ...

PondNet eDNA Survey



... a major undertaking this year as, due to Covid-19 lockdown restrictions, we only had one month to complete the whole survey!



Protecting starfruit



This summer, starfruit, one of the UK's rarest water plants appeared at the National Trust's Headley Heath site in Surrey for a second year . . .



Protecting starfruit



National
Trust

... Headley Heath is part of our Flagship Ponds project, which aims to protect ponds which are a critical part of Britain's freshwater biodiversity ...



Marsh lousewort at Pinkhill Meadow



... at another of our Flagship Ponds sites, Pinkhill Meadow in Oxford, marsh lousewort, a rare semi-parasitic plant was found to be thriving ...



Marsh lousewort at Pinkhill Meadow



... we introduced seeds experimentally from a local source in 2018 and it has since spread, and plants are now germinating in the surrounding ponds.

Pillwort at Skipwith NNR



At Skipwith NNR, a northern Flagship Ponds site, we joined forces with the Yorkshire Fern Group to monitor the rare aquatic fern, pillwort using new technologies ...

Pillwort at Skipwith NNR



... and found that despite the dry conditions the fern was doing rather well, with new populations discovered and mapped with the help of Dr Barry Wright's drone 'Roger'!

Pillwort at Skipwith NNR



... eager to find out more about this fascinating fern, Barry also managed to capture some amazing time-lapse footage of a pillwort sporocarp explosion!

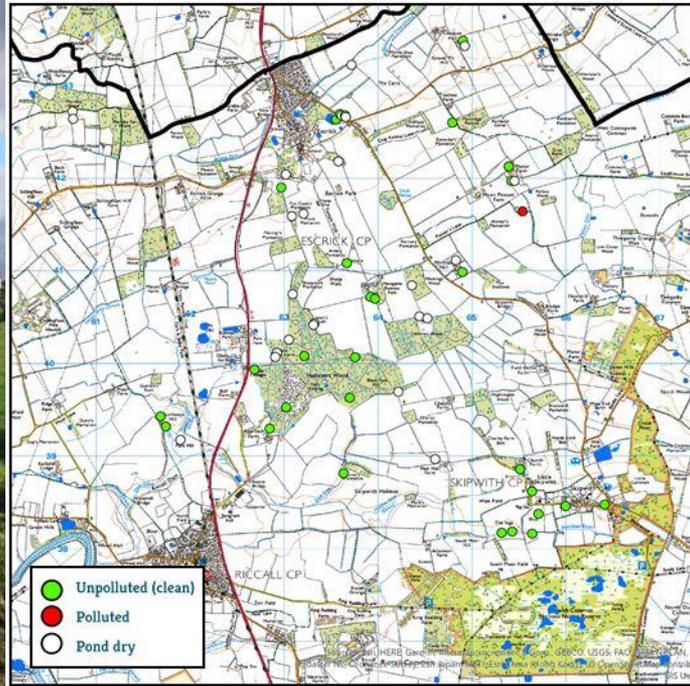
Escrick Park Estate Pond Survey



Also in North Yorkshire and close to Skipwith NNR we made an inventory of all the ponds on the Escrick Park Estate . . .

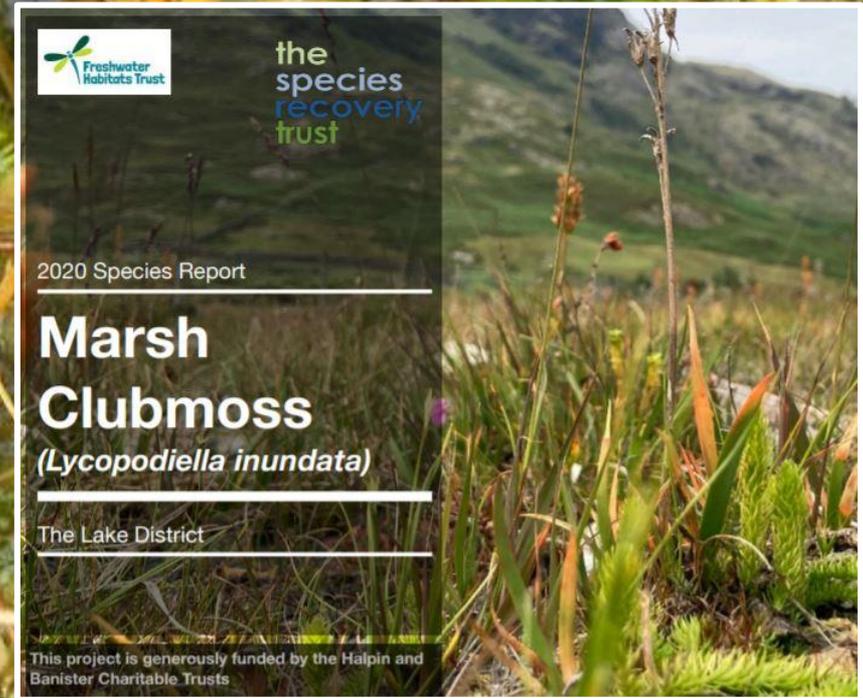


Escrick Park Estate Pond Survey



... and found clean, unpolluted water across the majority of the pond landscape ...

Marsh clubmoss in the Lake District



We were excited to be involved in the publication of a new species report, led by the Species Recovery Trust, for marsh clubmoss in the Lake District . . .

Marsh clubmoss in the New Forest



the
species
recovery
trust

... and in the New Forest, new populations have been discovered, thriving in clean unpolluted seasonally saturated habitats, grazed by free roaming livestock.

New Forest Catchment Partnership



We are working closely with a local land advice service and farmers on the Bartley River and Fletchwood Stream to create better habitats for freshwater life . . .

New Forest Catchment Partnership

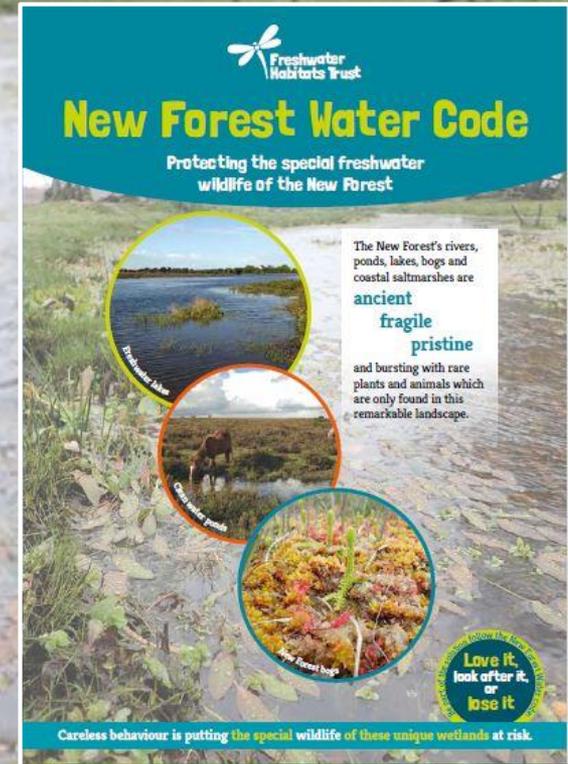


... and we are continuing work on one of Britain's richest, and most fragile, freshwater habitats, Hatchet Pond (actually a small lake), to prevent deterioration from over-use.

New Forest Catchment Partnership



SUPPORTED BY



We produced a 'Water Code' to increase understanding of the unique freshwater landscape and promote positive action to protect the New Forest's outstanding qualities . . .

New Forest Catchment Partnership



Neil Philips

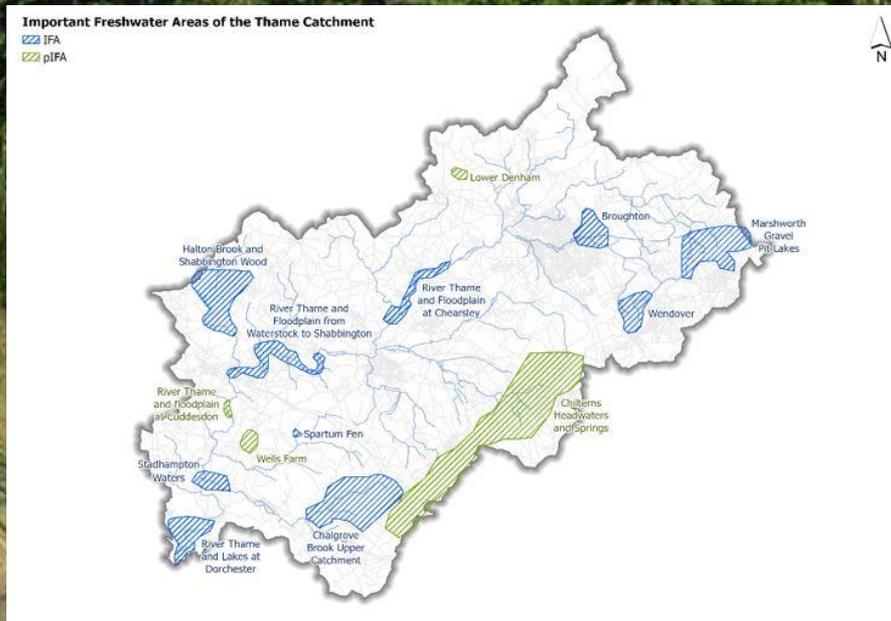
... and at the annual Water Forum nearly 90 attendees were inspired by our vital work in the catchment ... from curlew to amphibians to the rare tadpole shrimp!

Thame Catchment: Important Freshwater Areas



Identification of the IFA's of the Thame Catchment is enabling us to target conservation work where some of the best gains for freshwater wildlife can be achieved ...

Thame Catchment: Important Freshwater Areas



... IFA's are locations of importance for freshwater biodiversity typically comprising groups of important freshwater habitats and species.

Eythrope Wetland Creation



First of its kind in the Thame Catchment! The newly created wetland mosaic at Eythrop in Buckinghamshire, takes a holistic approach to floodplain restoration . . .

Eythrope Wetland Creation



River Thame
Conservation
Trust



WADDESDON

... comprising a complex of high quality pools, ponds, wet grassland and backwater habitat. It aims to provide clean unpolluted water in which wildlife can thrive.

Wootton Brook Catchment



We set up a Natural Flood Management (NFM) project, to install and monitor NFM measures across the Wootton Brook catchment on the edge of Northampton.

Wootton Brook Catchment



... the catchment is mainly characterised by typical lowland agricultural land in the upstream catchment and urban areas downstream, with a history of flooding ...

Wootton Brook Catchment



... to date the project has installed across the catchment, 44 leaky dams, 4 floodplain storage areas, tree planting and 23 ha of arable reversion and buffer strips.



Saving Oxford's Wetland Wildlife



During lockdown, our Project Officer, Ellie, connected with local people, by presenting a Zoom talk to the Ashmolean Natural History Society of Oxfordshire . . .



Saving Oxford's Wetland Wildlife



... and we were delighted to work with Dr Judy Webb, planting and monitoring some of Oxford's rarest wetland plants at Cutteslowe Meadows.



NATURAL
ENGLAND

We continued restoration work at four SSSI fens in Oxfordshire. This remnant Tussock Sedge is still hanging on at Spartum Fen, although the site was degraded. . .

Oxfordshire Fens Project



... due to lack of management and drying-out. Alkaline fens are some of the most biodiverse of all freshwater habitats when well-managed.

Ock Arable Project



We carried out fish eDNA surveys around the Ock catchment in Oxfordshire, to collect data on fish populations in the area . . .



Ock Arable Project



...this project aims to help reduce water pollution and identify suitable places for the installation of natural flood management measures and habitat improvement works.

The Newt Conservation Partnership



The Newt Conservation Partnership creates and restores ponds and terrestrial habitat for the NatureSpace great crested newt District Licensing scheme . . .

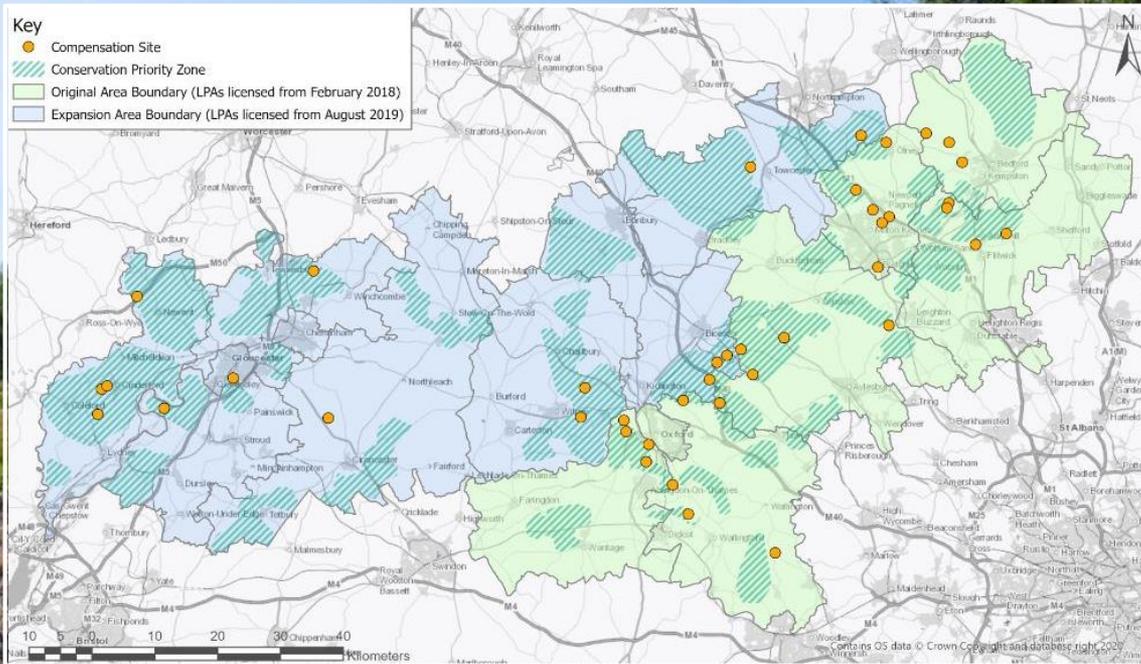


The Newt Conservation Partnership



... during 2020, the Newt Conservation Partnership created or restored another 44 clean water ponds, bringing the total number of ponds to 112 ...

The Newt Conservation Partnership



... we currently work with 18 Local Planning Authorities across the South Midlands and Gloucestershire ...

The Newt Conservation Partnership



... but are excited to announce that the area where we work will soon double in size as we begin working with more Local Planning Authorities.



Making 30x30 meaningful



In September, we welcomed the announcement from the Prime Minister that the UK will aim to protect 30% of land for nature by 2030...



Making 30x30 meaningful



... however, much of the landscape currently 'protected' is in poor condition and perhaps the most vulnerable part of those landscapes is water ...



Making 30x30 meaningful



... to make 30x30 meaningful for freshwater we ask that the government give small waters proper recognition within the protected site network ...



Making 30x30 meaningful



... and that within the protected site network ponds, headwaters and the species they support are notified to stop the decline of the best of the best freshwater sites.



Letter to Natural Capital Committee



In December, along with a group of the UK's top freshwater scientists, we wrote to the Natural Capital Committee to call for urgent action on small waters ...

Letter to Natural Capital Committee



... small waterbodies make up 80% of England's freshwaters and support over 70% of freshwater species, but lack any formal monitoring in the UK ...



Letter to Natural Capital Committee



... actively creating and managing small waterbodies has the potential to bring rapid and significant biodiversity benefits at a time of increasing threat and need.

Thank you!



Freshwater Habitats Trust 2020

And finally, we'd like to acknowledge the hard work of all our staff, partners, and volunteers, over the last 12 months

2020

It's been a heck of a year!
See you in 2021...

Lake

River

Canal

Stream

Pond

Ditch