



Citizen Crane Year 12 Annual Forum

15th October 2026

Agenda

- 10:30 - **Citizen Crane Forum Welcome** (*Azra Glover, ZSL*)
- 10:35 - **2025/26 Citizen Crane Data Update** (*Rob Gray, CV CIC*)
- 10:50 – **UK Centre of Ecology & Hydrology** (*Andrew Johnson, UKCEH*)
- 11:05 - **Q&A** (15 mins)
- 11:20 - **Break** (20 mins)
- 11:40 – **ZSL Tour De Crane** (*Ella Carbery-Tarrant, ZSL*)
- 11:55 – **Cartographer Tour De Crane** (*Helen Moggridge, Cartographer*)
- 12:10 - **Water Voles in the Crane** (*Seshi Humphrey-Ackumey, ZSL*)
- 12:25 - **Q&A** (10 mins)
- 12:35 - **Citizen Crane Updates & Next Steps** (*Azra Glover, ZSL*)
- 12:50 - **Communications & Social Media** (*Scott Wotherspoon & Matt Pye*)
- 12:55 - **Group Photo & Lunch**
- 14:00 - **Forum close**



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frog
environmental



2025/26 Citizen Crane data update

Rob Gray, CV CIC, FORCE

2025/26 Year 12 Citizen Crane Data Update



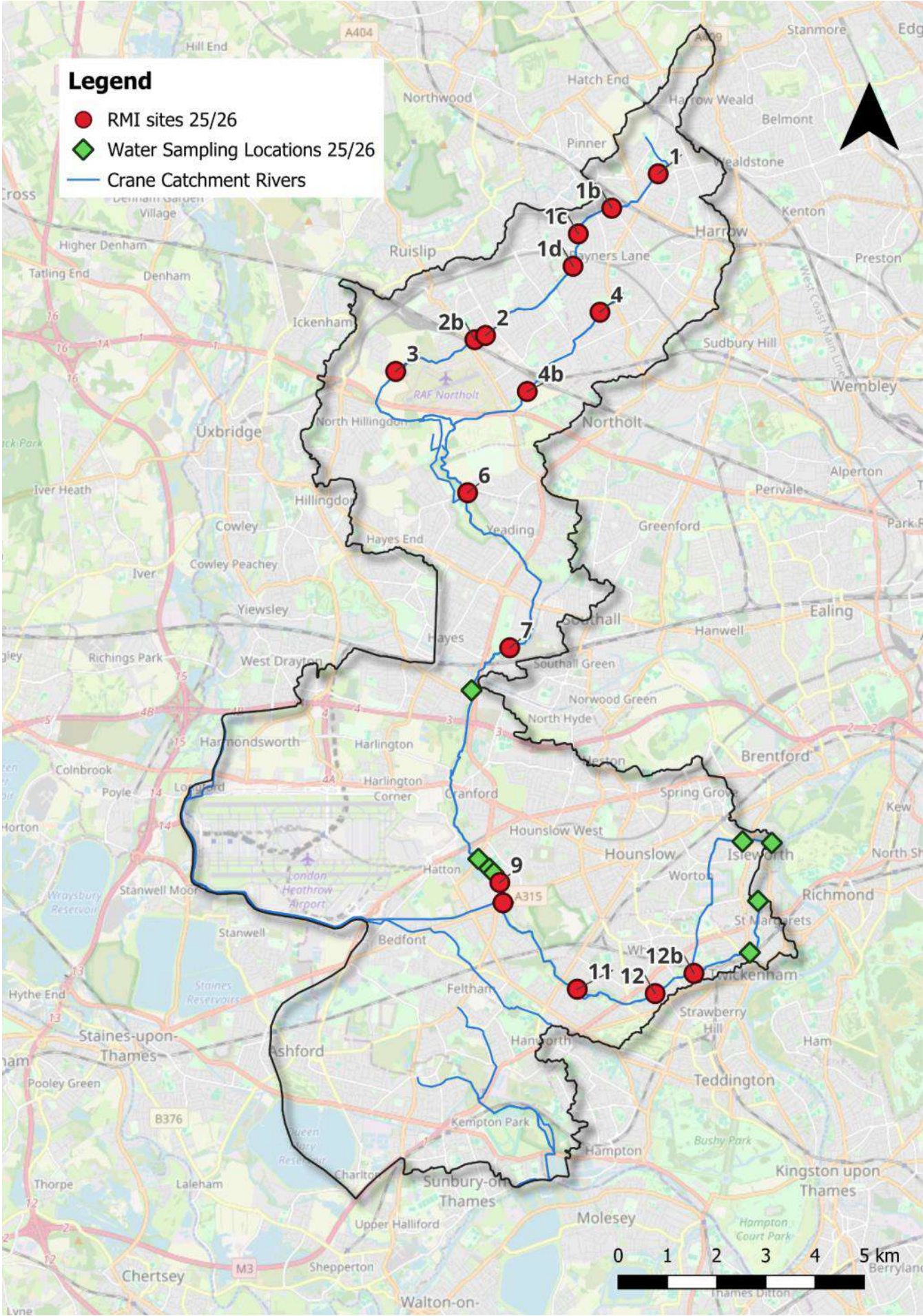
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Crane Catchment Map & Monitoring Points



Project Context

1. Major pollution: 2011 and 2013
2. Monitoring started in 2014
3. Volunteer led (over 70 trained)
4. Project team: ZSL, FORCE & frog environmental
5. Steering Group: CVP, EA + TW (meet quarterly)
6. Annual Report and Forum
7. Outfall Safaris: 2016, 2021 and 2024
8. Led to UK's 1st urban Smarter Water Catchment



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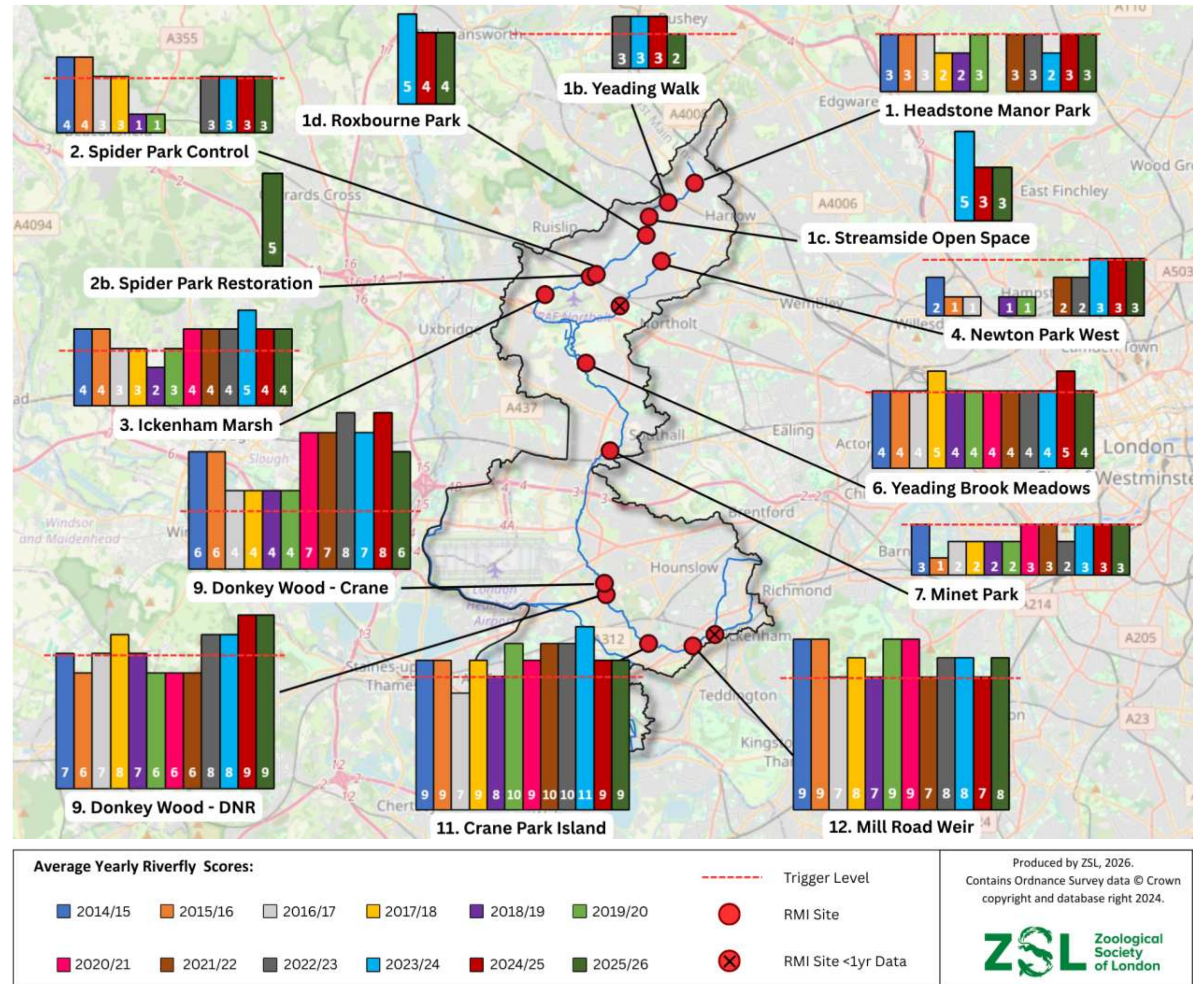
Previous Findings

1. Upper reaches poor
2. WQ improves downstream
3. Poor morphology in middle
4. River is removing both ammonia and phosphate
5. Lower reaches near GES
6. SWOP + OS helped remove 100's of pollution sources
7. No overall improvement in the river over first 8 years
8. Significant benefits linked to HAL Treatment plant – Yr 9

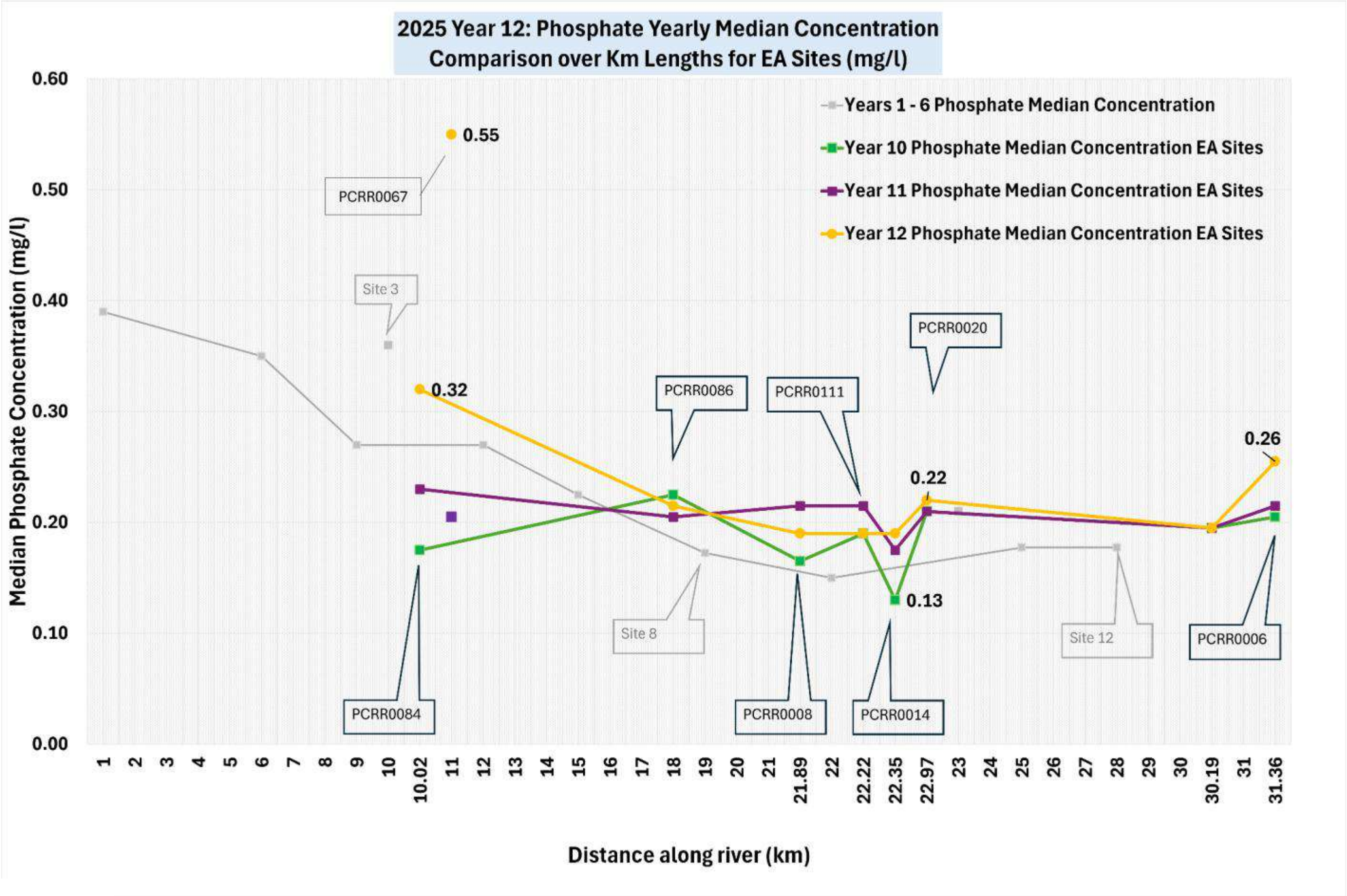


12 Years of RMI

1. Year 12 Report available
2. Consistent RMI for each site
3. Positive trend for most sites
4. Heathrow treatment works benefit continues
5. Local factors at some locations
6. Major improvements at pilot restoration sites
7. River resilience in the face of unprecedented drought (2025 and 2026)



EA Water Quality Data



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Overview

Reasons to be cheerful:

- SWOP, CSO monitoring, Yeading Brook East
- WFD and GES – maybe in reach?
- GLA Healthy Rivers programme
- More river restoration projects
- Enthusiasm of citizen scientists to do more
- Improvements in river condition and public value
- Public engagement - misconnections and sewer disposal
- Funding to March 2030

Reasons to be cautious:

- New and persistent misconnections
- Cross connections and network issues
- Road run-off + others (CECs PFAS etc)
- Climate change – unprecedented challenges



Thank You

Questions at the end of the next session

Rob Gray

Chair of Crane Valley CIC

Trustee (FORCE)

rob.gray@cvcic.org.uk



frog
environmental



**What stressors in English rivers are
most important in influencing
biodiversity outcomes**

Andrew Johnson, UKCEH

What stressors in English rivers are most important in influencing biodiversity outcomes

Andrew Johnson



Research funded by NERC and Defra, the results come from a large team in UKCEH with major contributions from Yueming Qu and Dina Sadykova



UK Centre for
Ecology & Hydrology

Once upon a time.....

Back in 2017 we published a paper assessing which of the many chemicals present in English rivers represented the highest relative risk to aquatic organisms...

Science of the Total Environment 599–600 (2017) 1372–1381

Contents lists available at ScienceDirect

Science of the Total Environment

journal homepage: www.elsevier.com/locate/scitotenv



An alternative approach to risk rank chemicals on the threat they pose to the aquatic environment



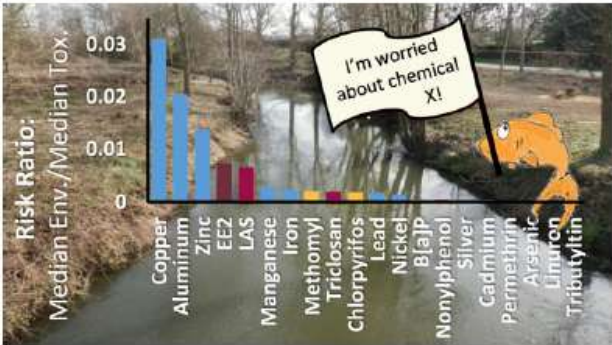
Andrew C. Johnson^{a,*}, Rachel L. Donnachie^a, John P. Sumpter^b, Monika D. Jürgens^a, Claudia Moeckel^c, M. Gloria Pereira^c

^a Centre for Ecology and Hydrology, Wallingford, Oxfordshire OX10 8BB, UK
^b Institute of Environment, Health and Societies, Brunel University London, Uxbridge UB8 3PH, UK
^c Centre for Ecology and Hydrology, Lancaster LA1 4AP, UK

HIGHLIGHTS

- An analysis of the relative risk of 71 different chemicals was made
- Risk was based on the median or a percentile of the ecotoxicity values
- Ecotoxicity was compared with a median or a percentile of water concentrations
- The relative risk was highest for the metals copper, aluminium and zinc
- Ethinylestradiol, linear alkylbenzene sulfonate and triclosan were in the top ten

GRAPHICAL ABSTRACT



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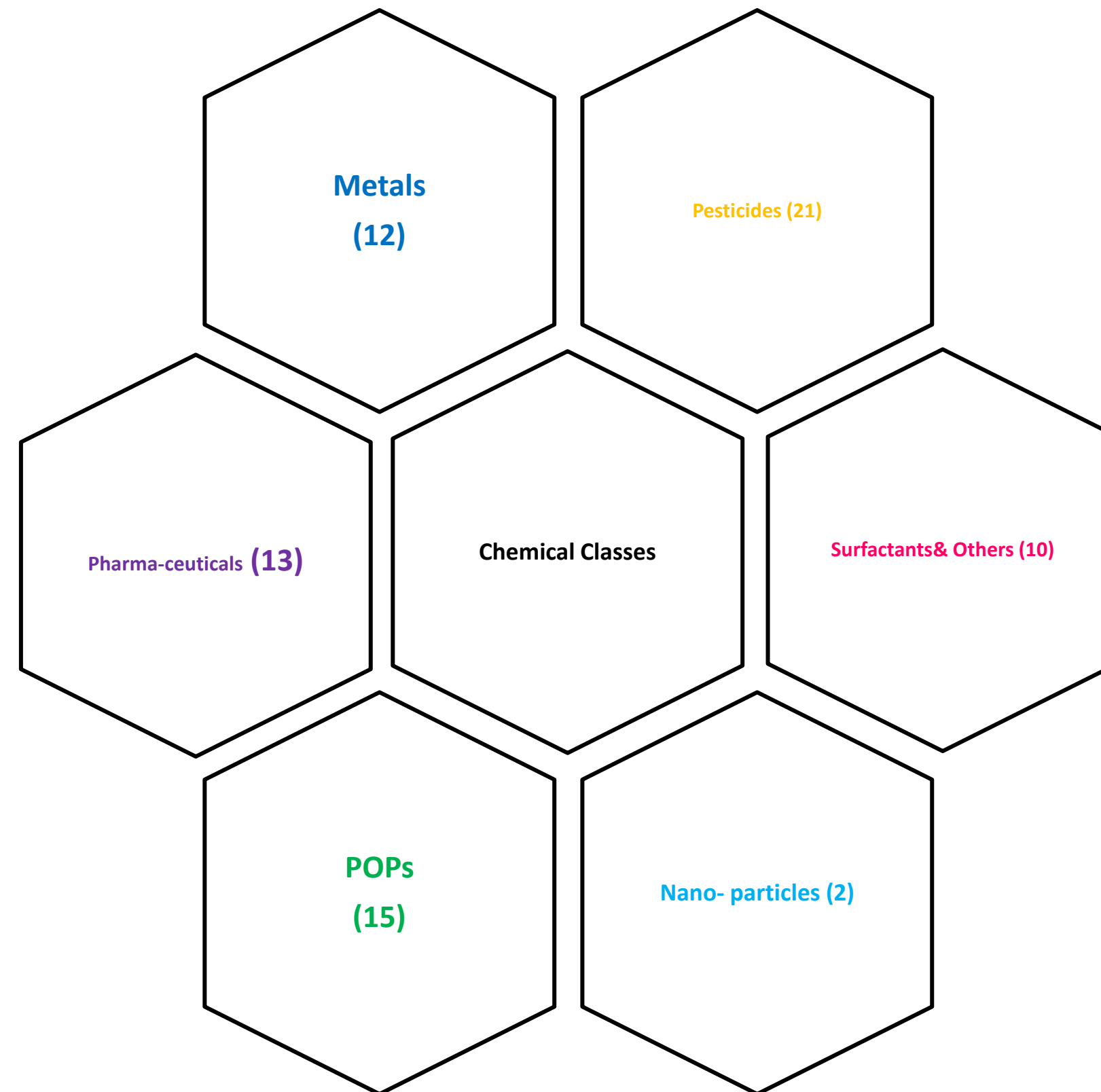
Chemical
Risk
Ranking
Freshwater
Metals
Organics

ABSTRACT

This work presents a new and unbiased method of risk ranking chemicals based on the threat they pose to the aquatic environment. The study ranked 12 metals, 23 pesticides, 11 other persistent organic pollutants (POPs), 13 pharmaceuticals, 10 surfactants and similar compounds and 2 nanoparticles (total of 71) of concern against one another by comparing their median UK river water and median ecotoxicity effect concentrations. To complement this, by giving an assessment on potential wildlife impacts, risk ranking was also carried out by comparing the lowest 10th percentile of the effects data with the highest 90th percentile of the exposure data. In other words, risk was pared down to just toxicity versus exposure. Further modifications included incorporating bioconcentration factors, using only recent water measurements and excluding either lethal or sub-lethal effects. The top ten chemicals, based on the medians, which emerged as having the highest risk to organisms in UK surface waters using all the ecotoxicity data were copper, aluminium, zinc, ethinylestradiol (EE2), linear alkylbenzene sulfonate (LAS), triclosan, manganese, iron, methomyl and chlorpyrifos. By way of contrast, using current UK environmental quality standards as the comparator to median UK river water concentrations would have selected 6 different chemicals in the top ten. This approach revealed big differences in relative risk; for example, zinc presented a million times greater risk than metoprolol and LAS 550 times greater risk than nanosilver. With the exception of EE2, most pharmaceuticals were ranked as having a relatively low risk.

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We compared these chemical groups against each other



Here we are ranking chemicals
for which there is already some
existing knowledge

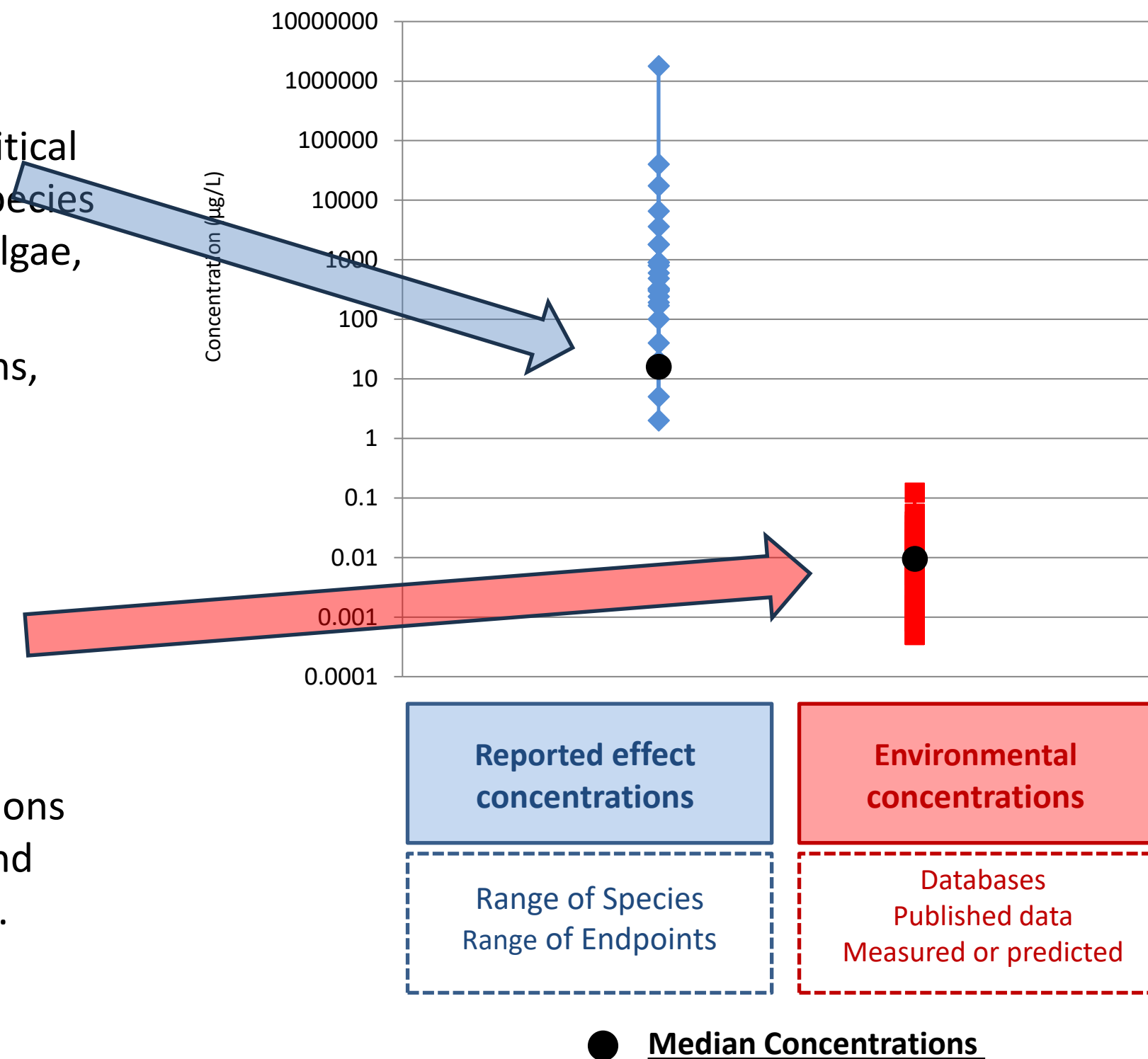
- 73 chemicals in total were considered
- Not random
- We have tried to identify chemicals which are prominent in the literature and that are considered by the scientific community to be a potential concern to freshwater ecosystems

Risk ranking method...

was done by comparing median effect concentrations with UK median measured/predicted river concentrations

Our focus was risk to the UK river environment

- **Concentration at which harm occurs data** – an uncritical data collection process (Range of European/OECD species and end-points). Aim for 50-100 records. Included algae, plants, invertebrates and fish
- Quality standards only used measured concentrations, but for pharmaceuticals all reports were accepted.
- **Observed river measurements** – using the UK monitoring database from EA (WIMS) and scientific literature. If not available used European Waterbase dataset. If not available used **Predicted river measurements** – Used were little measured data available. Based on reported UK effluent concentrations and regional dilution values (Thames, Anglian etc) and low flows in high impacted rivers (Thames and Soar).

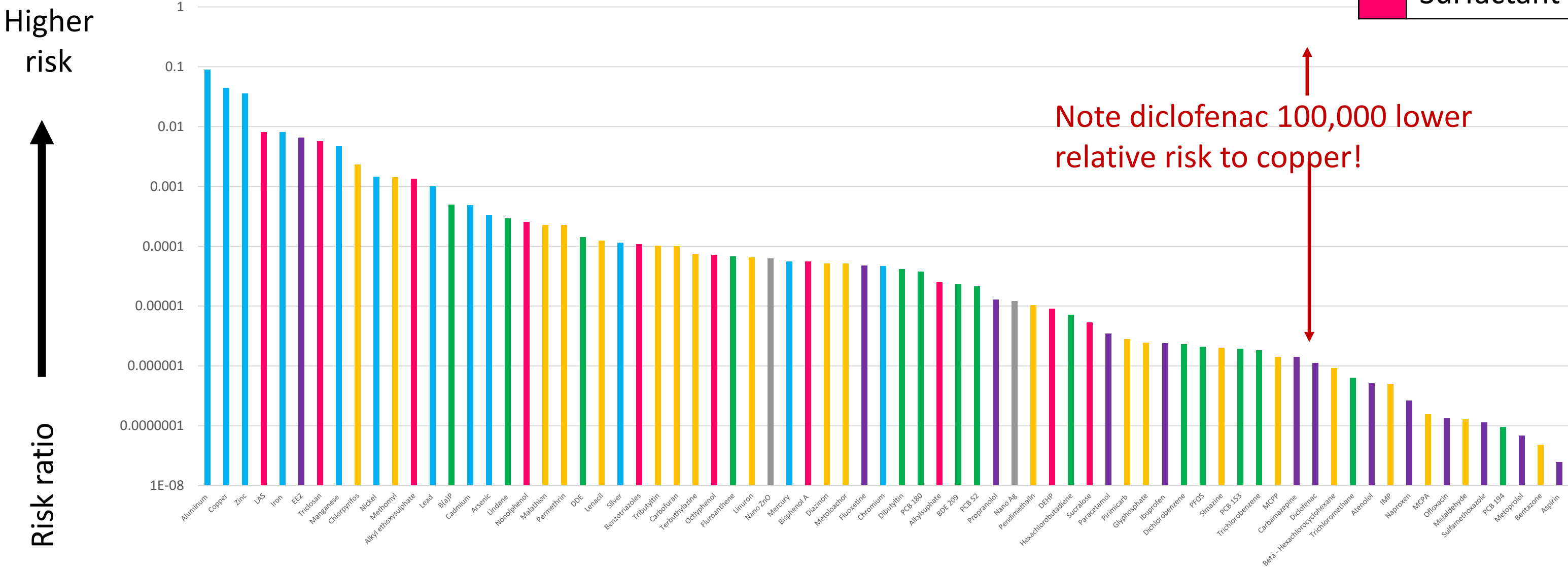


Example of relative risk ratio, the difference between the median effect data and median river values (on a log scale)

*All species and **all** endpoints (bacteria and algae included)*
Dissolved measured metals data and effect data for metals (pH 6.5-8.5)
UK water data – > 2000 onwards (with the exception of LAS)

	Metal
	Pesticide
	POP
	Pharmaceutical
	Nanoparticle
	Surfactant & others

Copper and zinc were pretty much at the top of the list



Higher risk chemicals



How has basic water quality changed across the whole of England over the past 30 years?

Using all the EA monitoring data....



Science of the Total Environment 843 (2022) 157014

Contents lists available at ScienceDirect

Science of the Total Environment

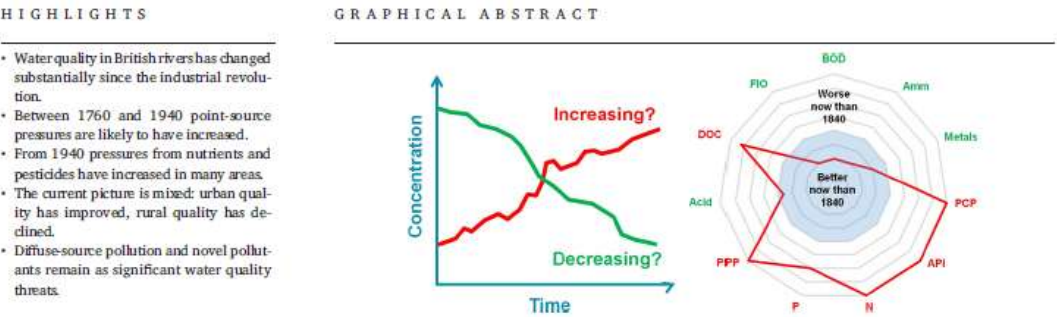
journal homepage: www.elsevier.com/locate/scitotenv

Review

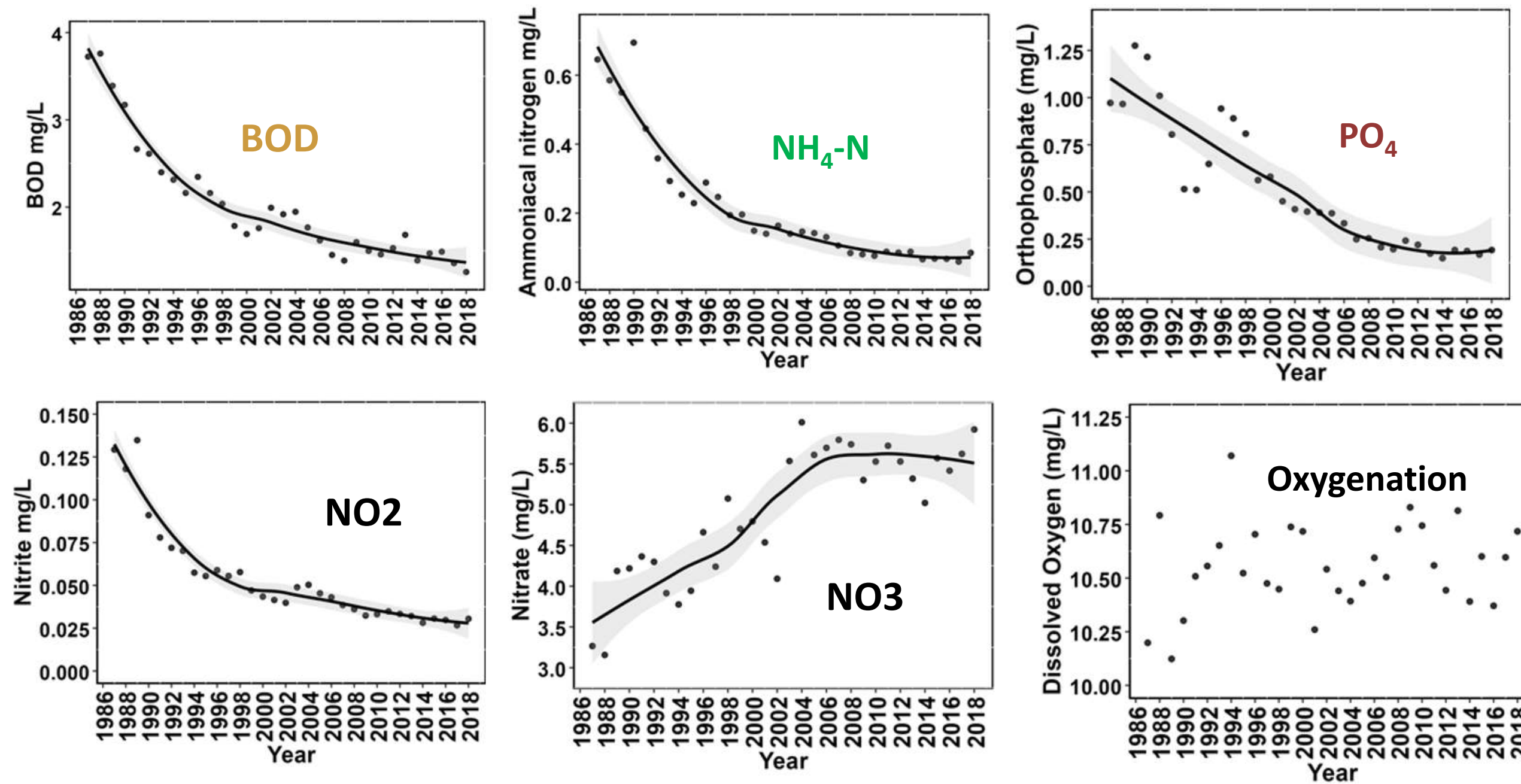
Is water quality in British rivers “better than at any time since the end of the Industrial Revolution”?

M.J. Whelan ^{a,*}, C. Linstead ^b, F. Worrall ^c, S.J. Ormerod ^d, I. Durance ^d, A.C. Johnson ^e, D. Johnson ^f, M. Owen ^g, E. Wiik ^h, N.J.K. Howden ⁱ, T.P. Burt ^c, A. Boxall ^j, C.D. Brown ^j, D.M. Oliver ^k, D. Tickner ^b

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^c University of Durham, United Kingdom of Great Britain and Northern Ireland
^d Cardiff University, Water Research Institute, United Kingdom of Great Britain and Northern Ireland
^e UKCEH, Wallingford, United Kingdom of Great Britain and Northern Ireland
^f The Rivers Trust, United Kingdom of Great Britain and Northern Ireland
^g Angling Trust, United Kingdom of Great Britain and Northern Ireland
^h Zenith Institute, United States of America
ⁱ University of Bristol, United Kingdom of Great Britain and Northern Ireland
^j University of York, United Kingdom of Great Britain and Northern Ireland
^k University of Stirling, United Kingdom of Great Britain and Northern Ireland

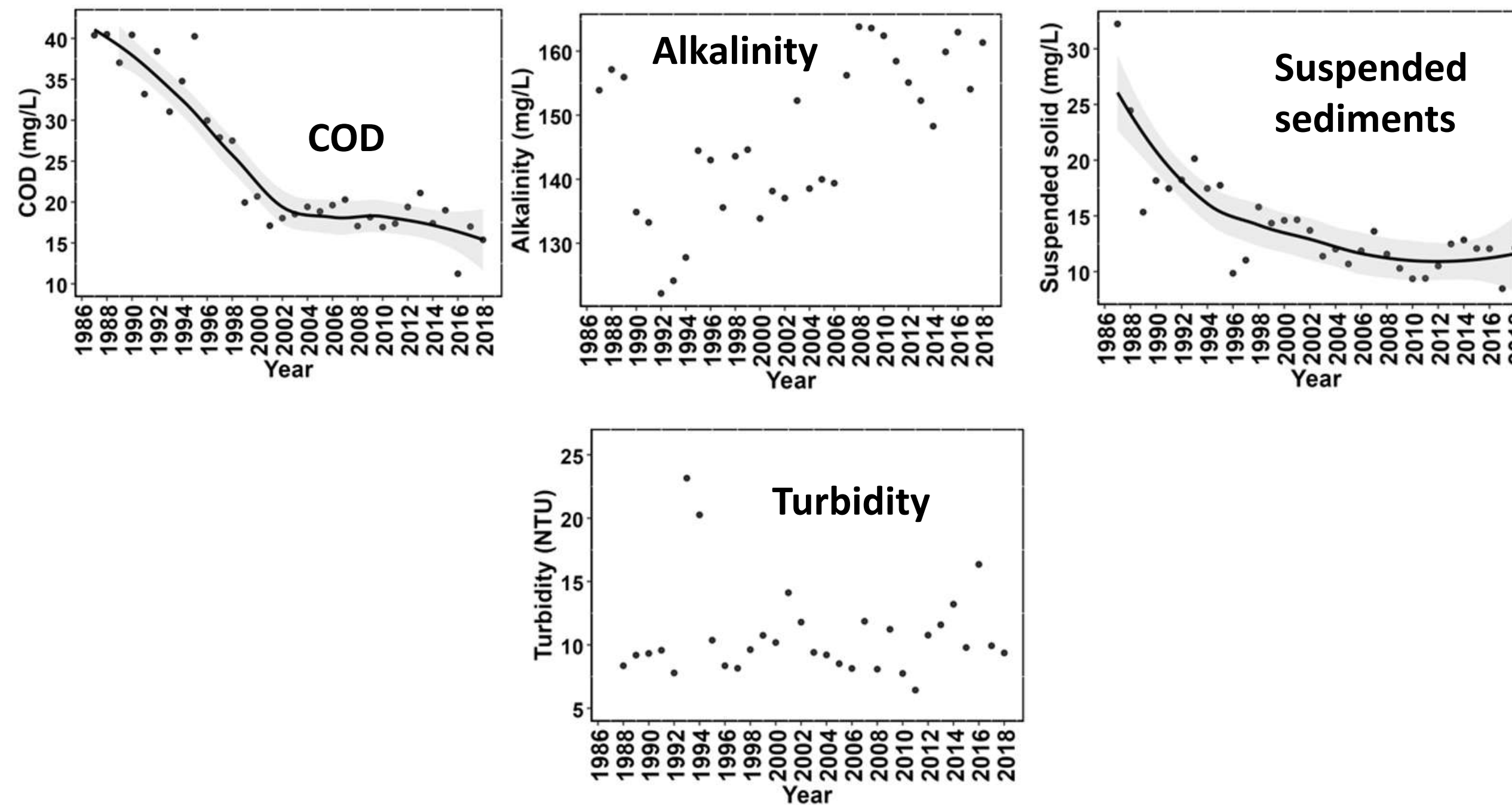


Trends in sanitary determinands for all river sites across England (1)



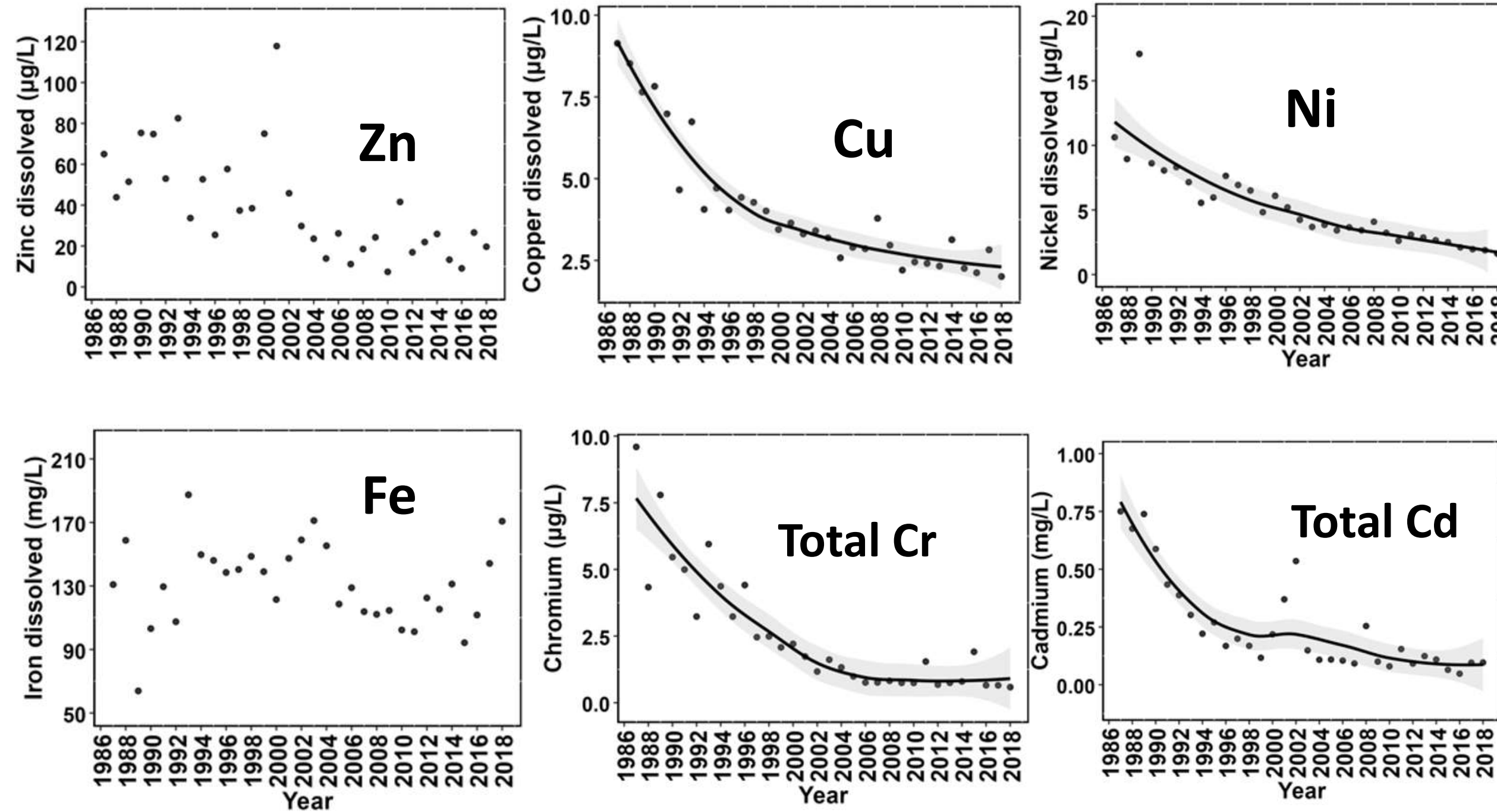
Apart from nitrate this is showing great improvement

Trends in sanitary determinands for all river sites across England (2)



Improvements in total organics (COD) and suspended sediments.
Possibly slight increase in alkalinity

Trends in metals for all river sites across England

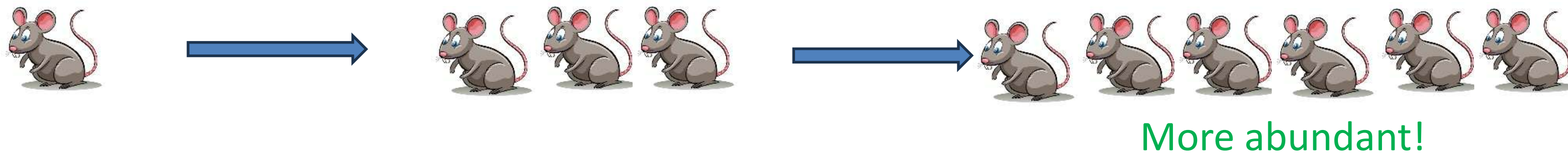


Except for iron, some big improvements

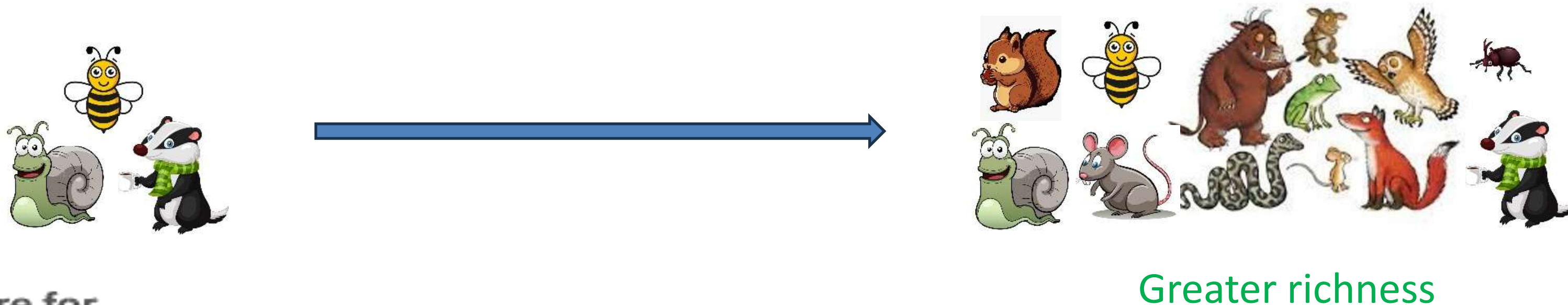
Biodiversity, abundance and richness, what do they mean?

Biodiversity can refer to many different aspects of the community living in a location. These can include, the stability of a range of species over time, their ecosystem function or roles, their ability to tolerate different pressures. The basic components are abundance and richness.

Abundance is referring to numbers of individuals of a single species, genus or family



Richness is referring to numbers of different species, genus or family present



We observed that a dramatic improvement in English river macroinvertebrate diversity (richness) had occurred over the past 30 years!

Family richness identifies the breadth of all families present from worms to snails to beetles to insect larva

EPT_Family richness refers only to the range of Ephemeroptera, Plecoptera and Trichoptera families present



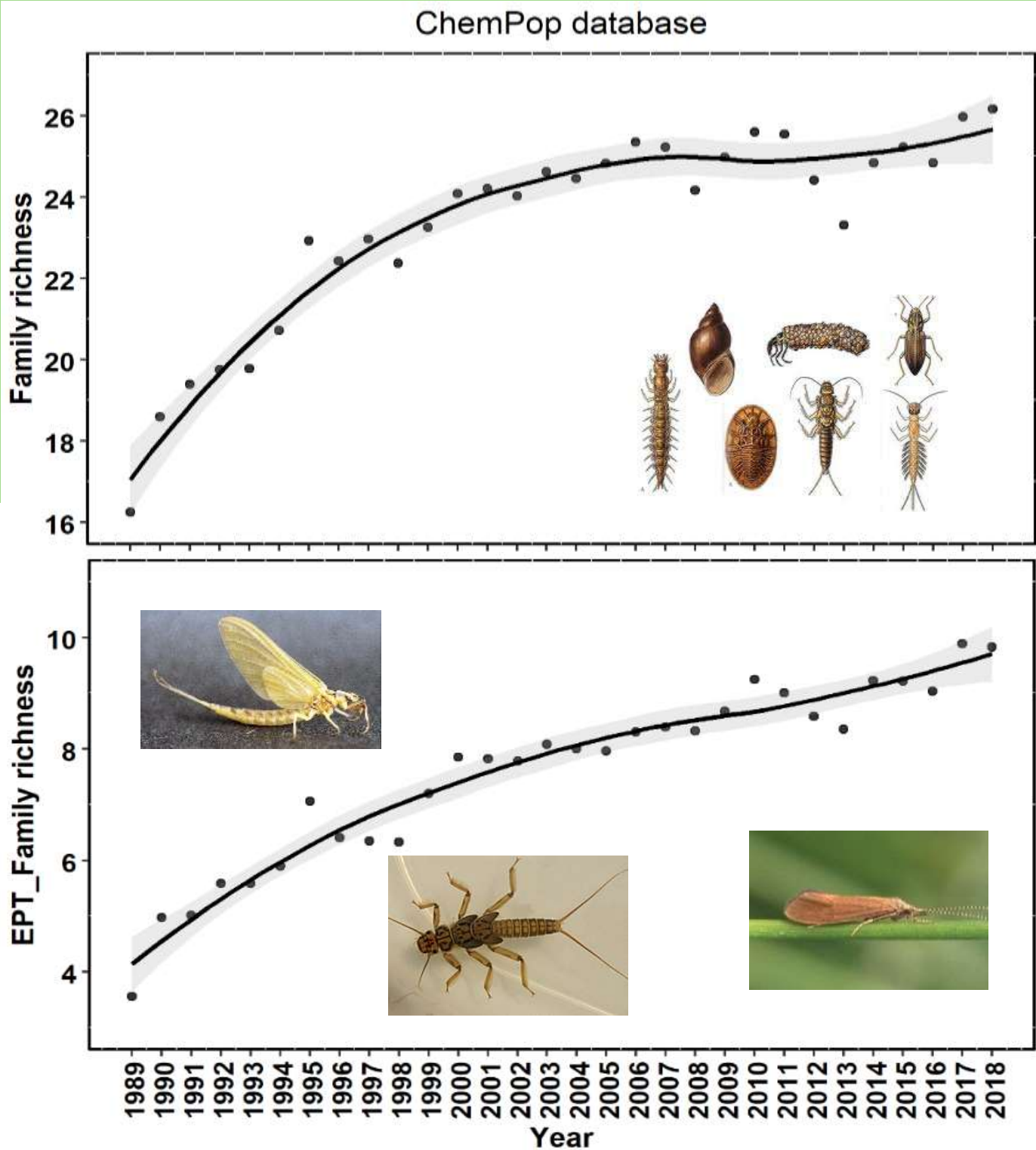
Science of The Total Environment
Volume 905, 20 December 2023, 167144



UK
Eco

Significant improvement in freshwater invertebrate biodiversity in all types of English rivers over the past 30years

Yueming Qu^a, Virginie Keller^a, Nuria Bachiller-Jareno^{a, b}, Michael Eastman^{a, c}, Francois Edwards^{a, d}, Monika D. Jürgens^a, John P. Sumpter^e, Andrew C. Johnson^a



1989 → 2018

How confident can we be that the increase in macroinvertebrate richness is genuine?

- Over 30 years we have gained 10-20 families per site, this is a huge change!
- Looking at the arriving taxa, invasive species could account for around a gain of 1.3 families
- There is evidence that over 30 years the EA field monitoring teams got better at identification. Analysis suggests this may lead to an apparent improvement of 1 extra family over this time period
- On their own these anomalies/artefacts can't account for the size of the gain, hence a genuine improvement in biodiversity has occurred.

Which variables were most important for overall macroinvertebrate family richness?

We brought together an integrated dataset of 1,457 sites across England 1989-2018 matched in space and, where possible time, with 41 different physical, landscape, habitat and chemical variables, giving over 65,032 data points



We have published this dataset on the NERC EIDC

Bachiller-Jareno, N.; Keller, V.D.J.; Eastman, M.; Edwards, F.K.; Jürgens, M.D.; Scarlett, P.M.; Rizzo, C.; Antoniou, V.; Dean, H.J.; Sadykova, D.; Qu, Y.; Johnson, A.C. (2025). **Macroinvertebrate taxonomic abundance, water quality, river flow, air temperature and environmental site descriptors from English rivers, 1965-2018, version 2.0**. NERC EDS Environmental Information Data Centre. <https://doi.org/10.5285/23f194b0-1e21-4f14-be9c-6eabdcc1feb7>

Statistical approach

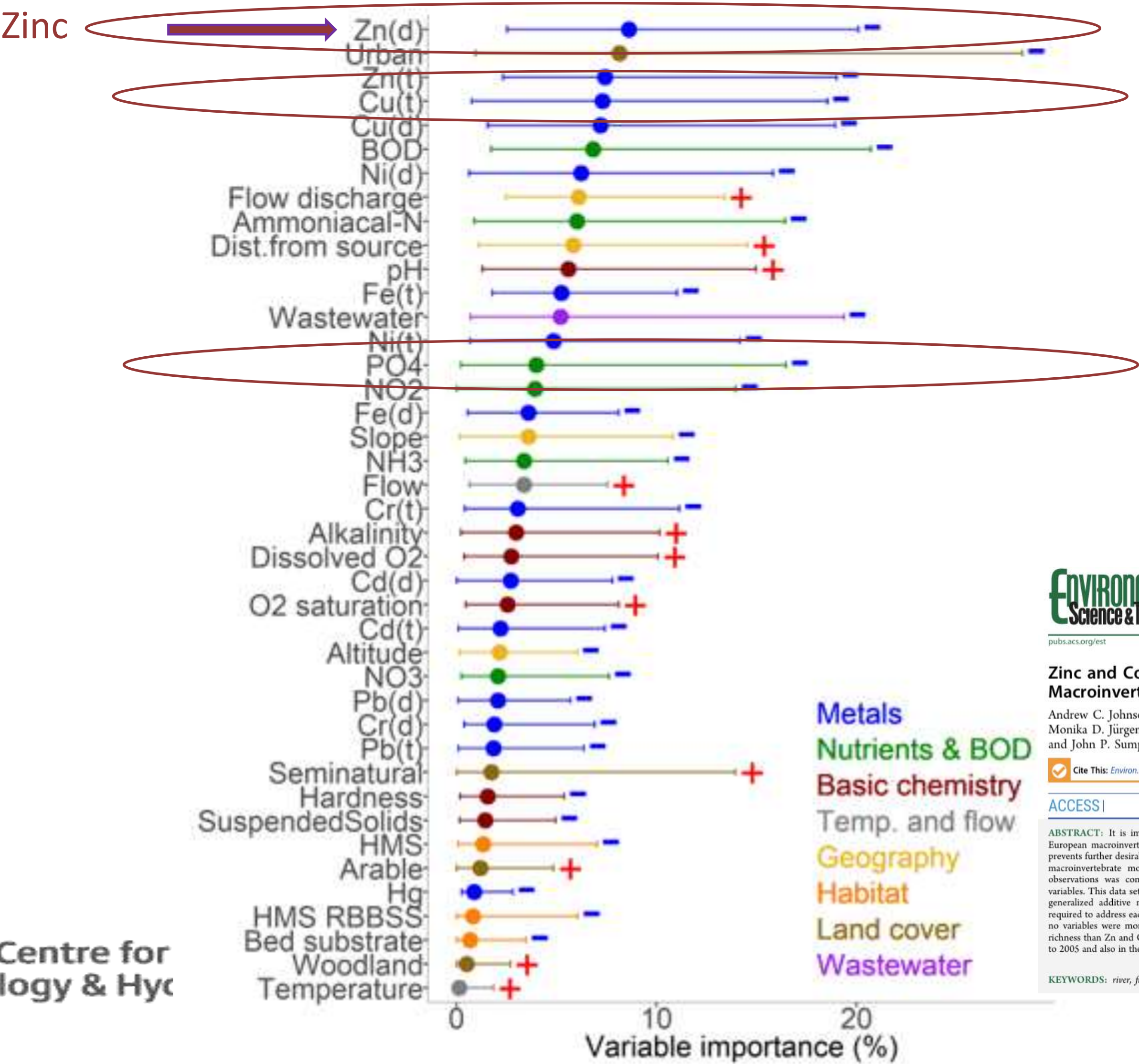
Using generalised linear mixed models (GLMM)

From the 41 variables, these statistical models reviewed combinations of 5 variables in the pack to see which element, when removed from a model, had the greatest impact on reducing predictive performance (explained deviance). This required around 20,000 model runs of different packs of 5.

We are asking from this mix of 41 variables, which are having an influence on richness more often in more places



GLMM Relative importance of the variables and national macroinvertebrate overall family richness for 1,457 sites spread across England using 30 years data and 65,000 observations



Zn and Cu more important than PO4 in suppressing invertebrate richness

If we model up to six of these variables together, we can explain up to 73% of the variance!

Environmental
Science & Technology

pubs.acs.org/est

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Article

Zinc and Copper Have the Greatest Relative Importance for River Macroinvertebrate Richness at a National Scale

Andrew C. Johnson,* Dinara Sadykova, Yueming Qu, Virginie D.J. Keller, Nuria Bachiller-Jareno, Monika D. Jürgens, Michael Eastman, François Edwards, Clarissa Rizzo, Peter M. Scarlett, and John P. Sumpter

Cite This: Environ. Sci. Technol. 2025, 59, 4068–4079

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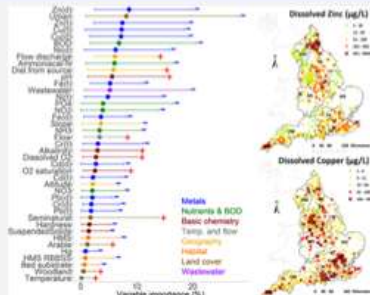
ACCESS |

Metrics & More

Article Recommendations

Supporting Information

ABSTRACT: It is important to discover what change led to the improvement in European macroinvertebrate biodiversity in the period from 1990–2000s and what prevents further desirable gains from taking place today. A 30-year data set from 1,457 macroinvertebrate monitoring sites spread across England, with 65,032 discrete observations was combined with 41 chemical, physical, habitat, and geographic variables. This data set was analyzed using generalized linear mixed-effect models and generalized additive mixed models. To include all combinations of the variables required to address each question, required over 20,000 model runs. It was found that no variables were more consistently and strongly associated with the overall family richness than Zn and Cu. Zn and Cu led both for the era of large gains in richness up to 2005 and also in the later period of 2006–2018 when few further gains were made.



KEYWORDS: river, freshwater invertebrates, statistical modeling, chemical stressors, habitat and geographic conditions



UK Centre for
Ecology & Hydrology

What is the statistical analysis suggesting for richness?

On average, models without zinc performed less well than any others in predicting richness.

This implies that whilst there are many things one could do to improve macroinvertebrate richness, this analysis says none would bear fruit at the national scale without tackling zinc and copper first



What change in concentration of Zn or Cu made the biggest difference to macroinvertebrate diversity?

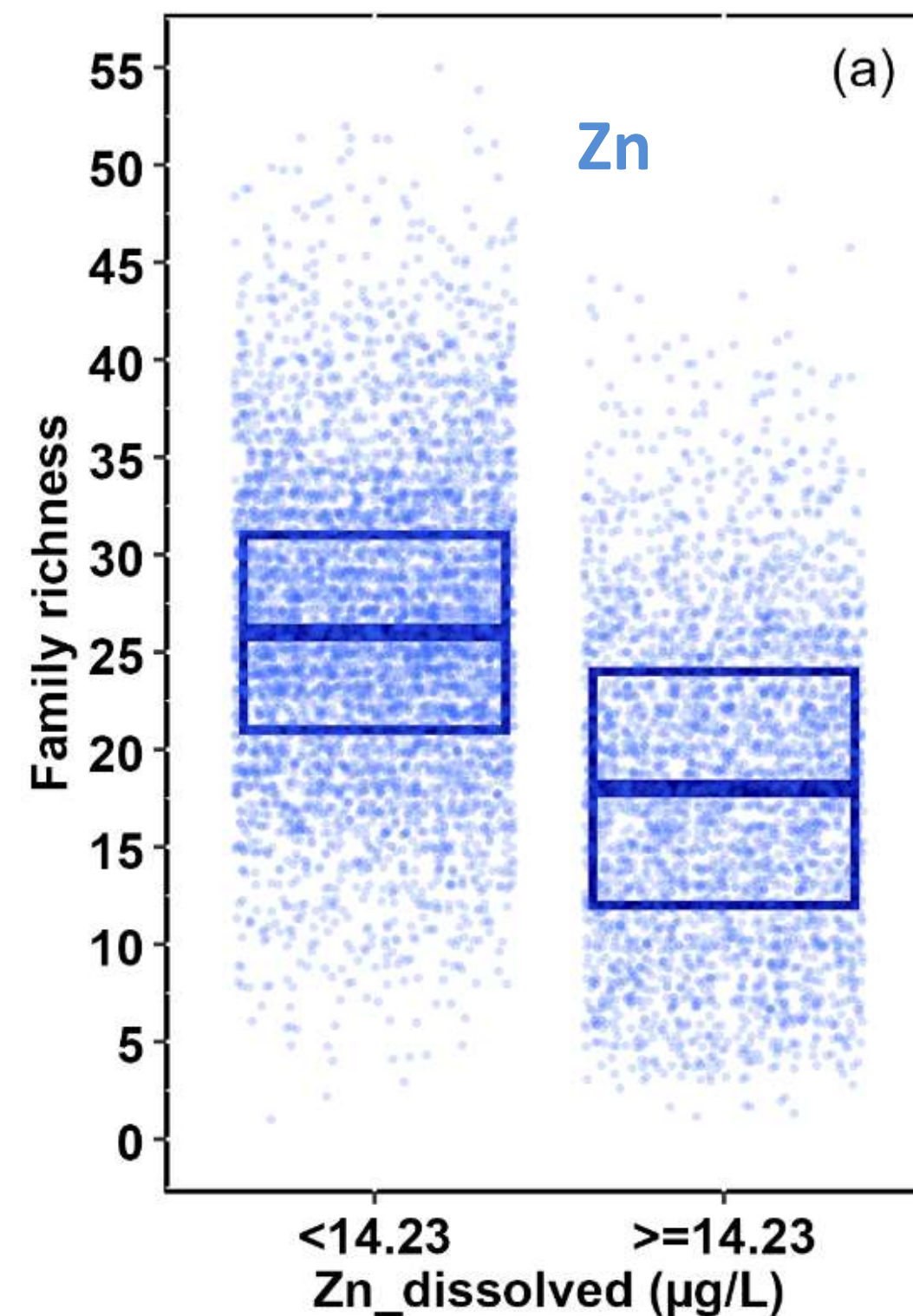
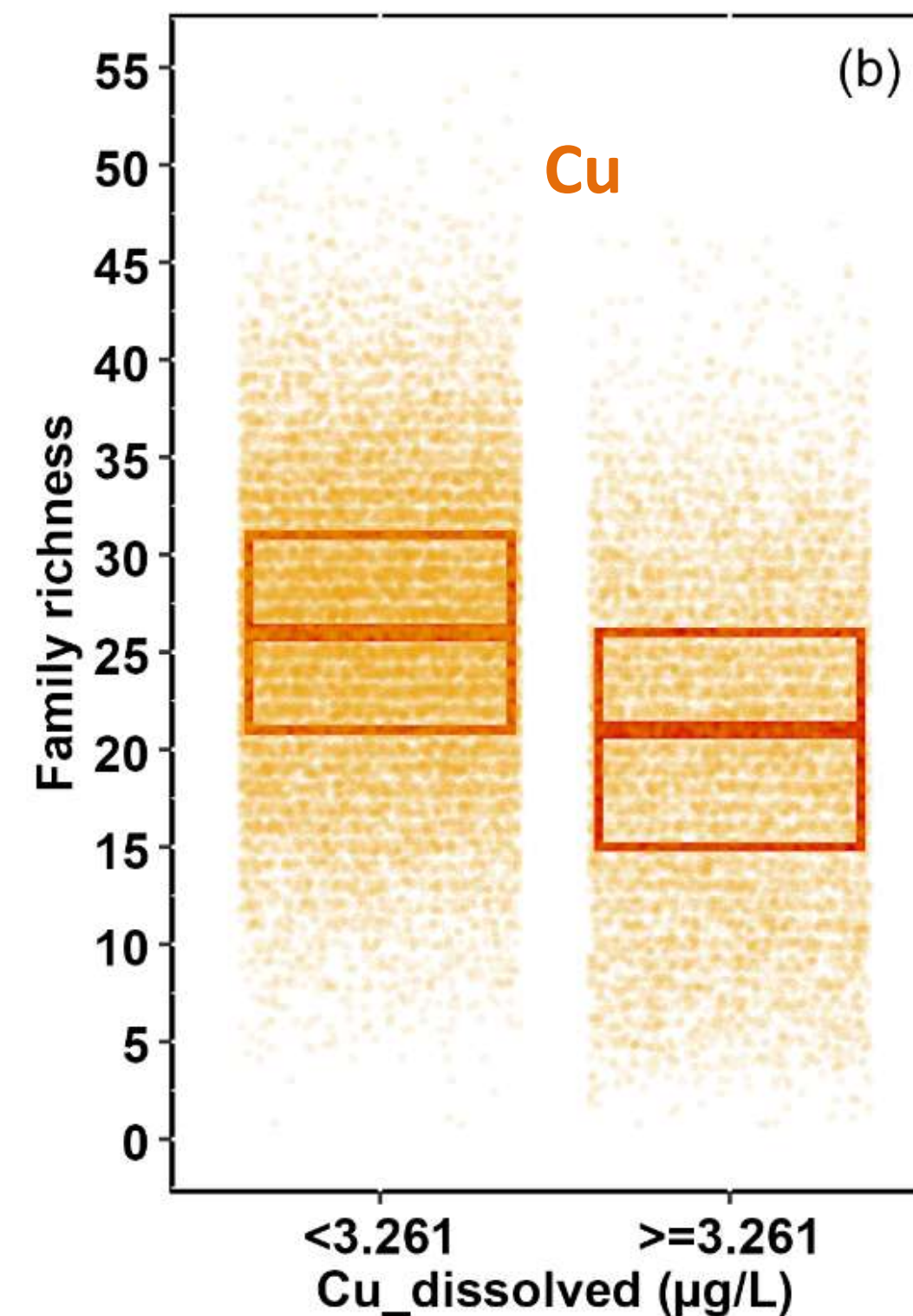


Using a classification and regression tree (CART) method to identify the Zn and Cu Concentrations that had the biggest impact on macroinvertebrate family richness

With the complexity parameter set at 0.05 (classification set at 0.005)

A Zn level of 14.2 $\mu\text{g/L}$ had the most significant effect on changing Family Richness (reducing levels below 14.2 $\mu\text{g/L}$ could result in an increase of 8 families).

For Cu, it was found that a level of 3.3 $\mu\text{g/L}$ had the most significant effect on changing Family Richness



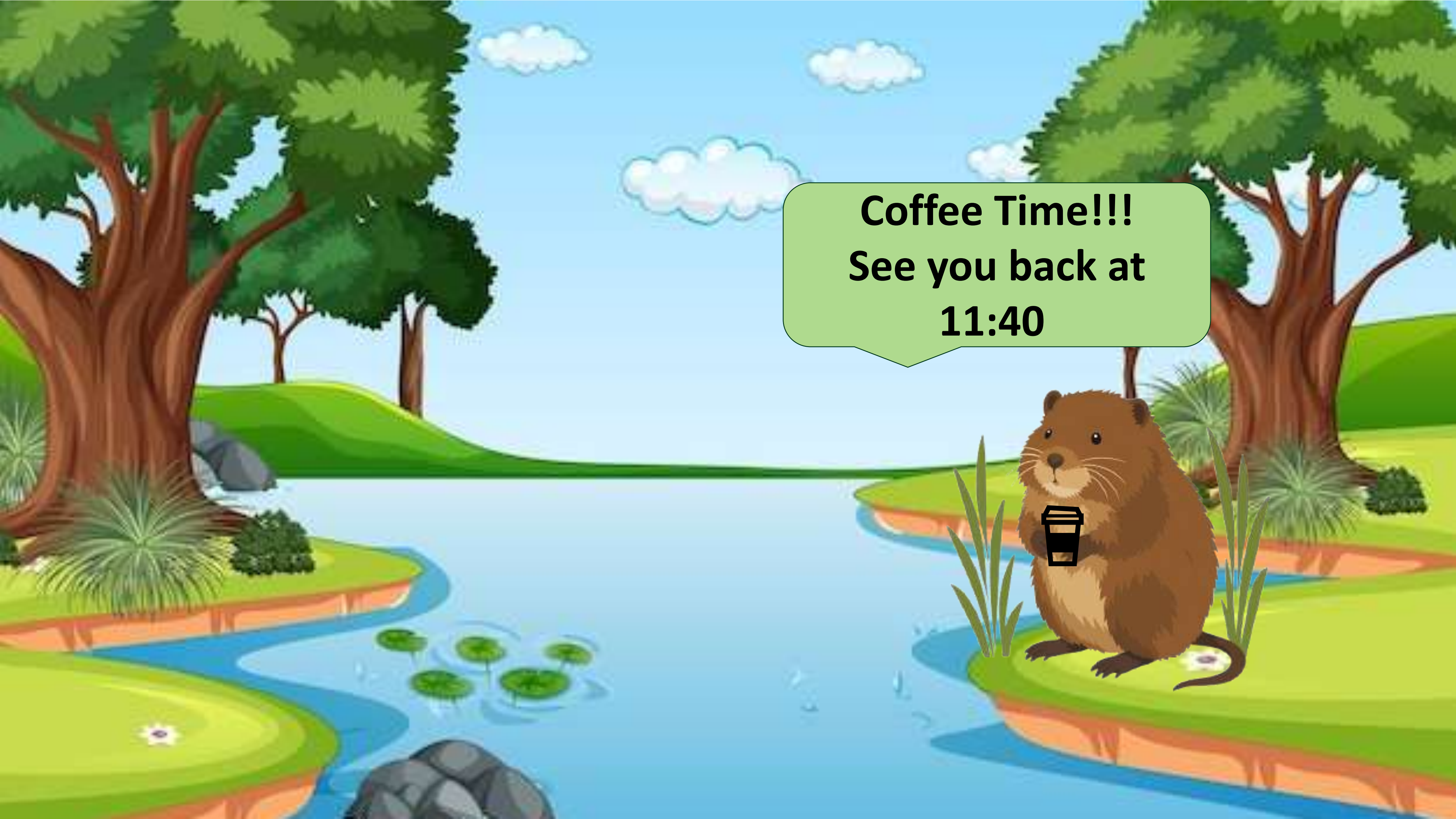
So what have we learnt?

- General water quality and biodiversity has improved across England over the last 30 years
- Using a risk based method, metals like zinc and copper are picked out as likely to be amongst the most harmful chemicals present (likely to be having a greater impact than pesticides, pharmaceuticals, POPS etc)
- Using a different method, listening to nature, bottom up statistical method, we found that zinc and copper were leading factors influencing macroinvertebrate richness
- That does not mean that Zn and Cu lead for every organism, or in every location. Just they are more important on average.
- Sites with a high urban proportion in the catchment were also poor for macroinvertebrates. Not necessarily due to high wastewater or poor channel morphology. Might episodic pollution from high flow events (road runoff or sewer overflows be the problem), or even sewer mis-connections make urban areas poor for invertebrates?





Any Questions?

A cartoon illustration of a beaver holding a coffee cup in a pond setting. The beaver is brown and sits on a grassy bank, holding a black coffee cup with a white lid. The background features a blue pond with lily pads, green hills, and large trees under a blue sky with white clouds. A green speech bubble contains the text "Coffee Time!!! See you back at 11:40".

**Coffee Time!!!
See you back at
11:40**



Tour De Crane 2026

Ella Carbery-Tarrant, Project Officer
Contact: ella.carbery-Tarrant@zsl.org

Why did we organise the tour?



Meet Crane volunteers

Get to know our volunteers and hear about their experiences.



Better understand RMI sites

Explore local conditions, monitoring activities and safety considerations.



Shape our support

Identify training needs, test additional monitoring and discuss future opportunities.

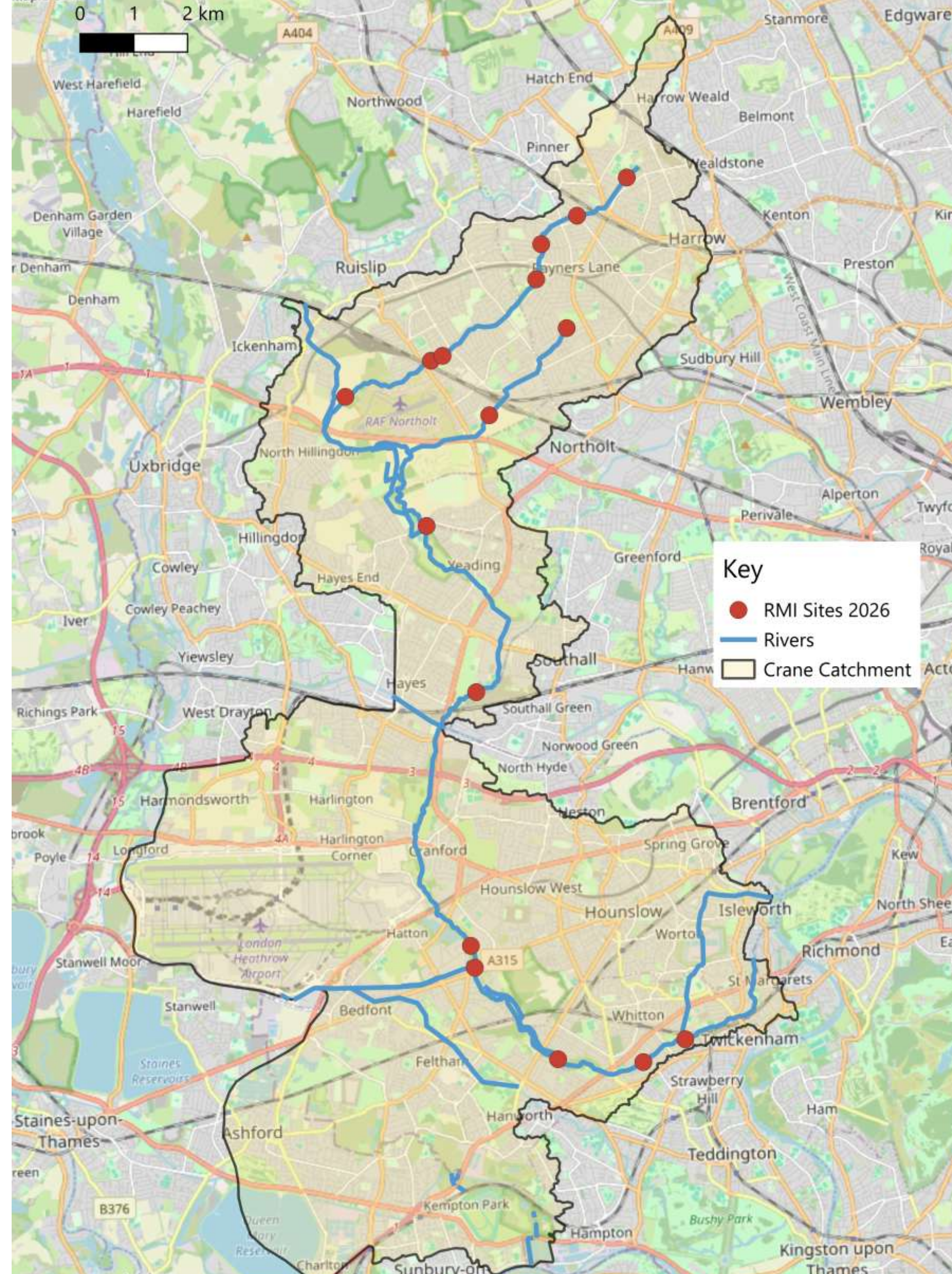
The Crane monitoring network



SITE NAME	ACTIVE VOLUNTEERS
Headstone Manor	Stephen, Adrian, Francoise, Karen, Speedy, Jamie
Streamside Open Space	Steve, Laura, Sian
Spider Park Restoration Zone and Control Site	Pete, Elizabeth, Christina, Paul, Felix
Ickenham Marsh	Chris
Stonefield Park	Dragana, Brian, Pete
Roxbourne Park	Jutta, Lindsay, Peter, Daniel
Yeading Walk	Alan, Angelique, Dean
Minet Country Park	Phil, Alison
Yeading Brook Meadows	Kevin, Andy
Newton Park West	Neville, Peter, Jo
Mereway Nature Reserve	Edward, Robert, Manon, Charlotte, Emma
Crane Park Island	Jonathan, Alan, Alison, Tina
Donkey Wood Crane and DNR	Ed, Sarah
Mill Road Weir	Joe, Rob, Richard, Anne, Liz, Melanie, Imogen

The Crane monitoring network

*16 active RMI sites
~49 volunteers*

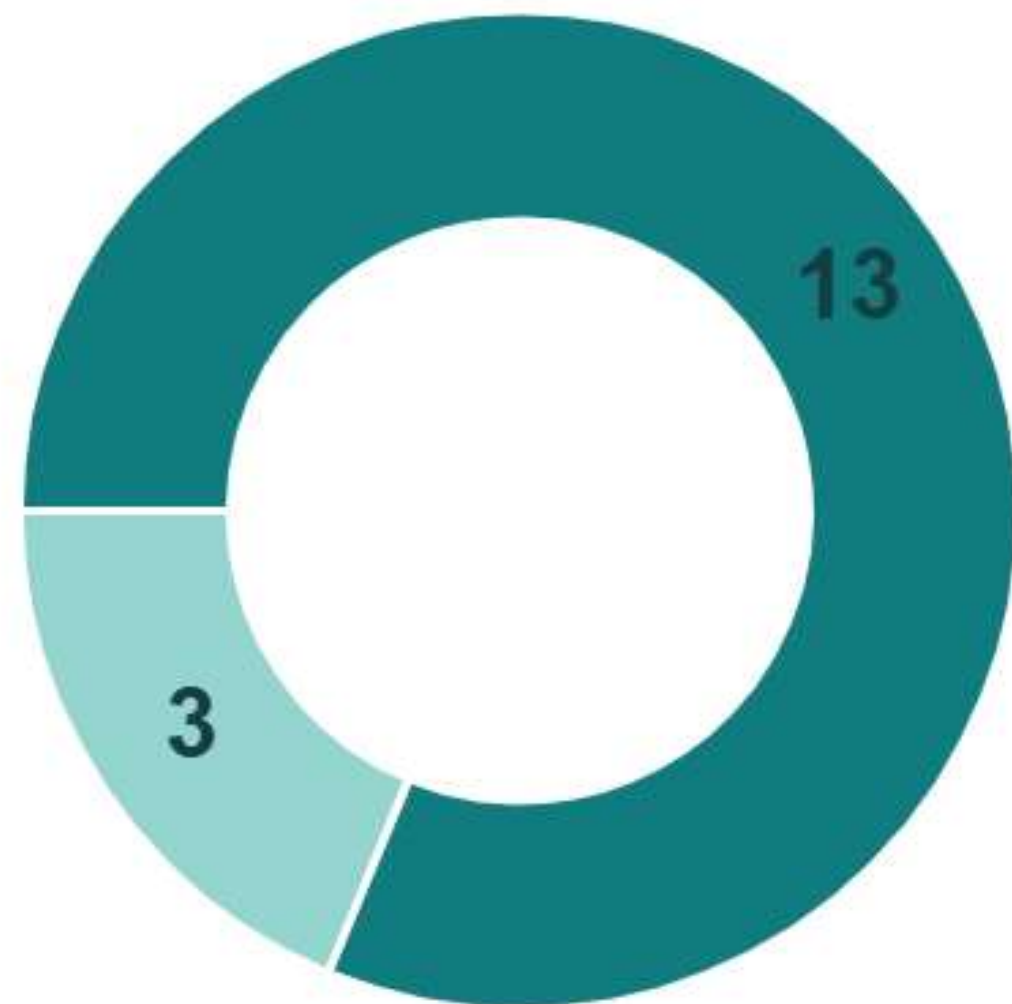


Local knowledge and regular monitoring across the Crane catchment

Supporting confident monitoring

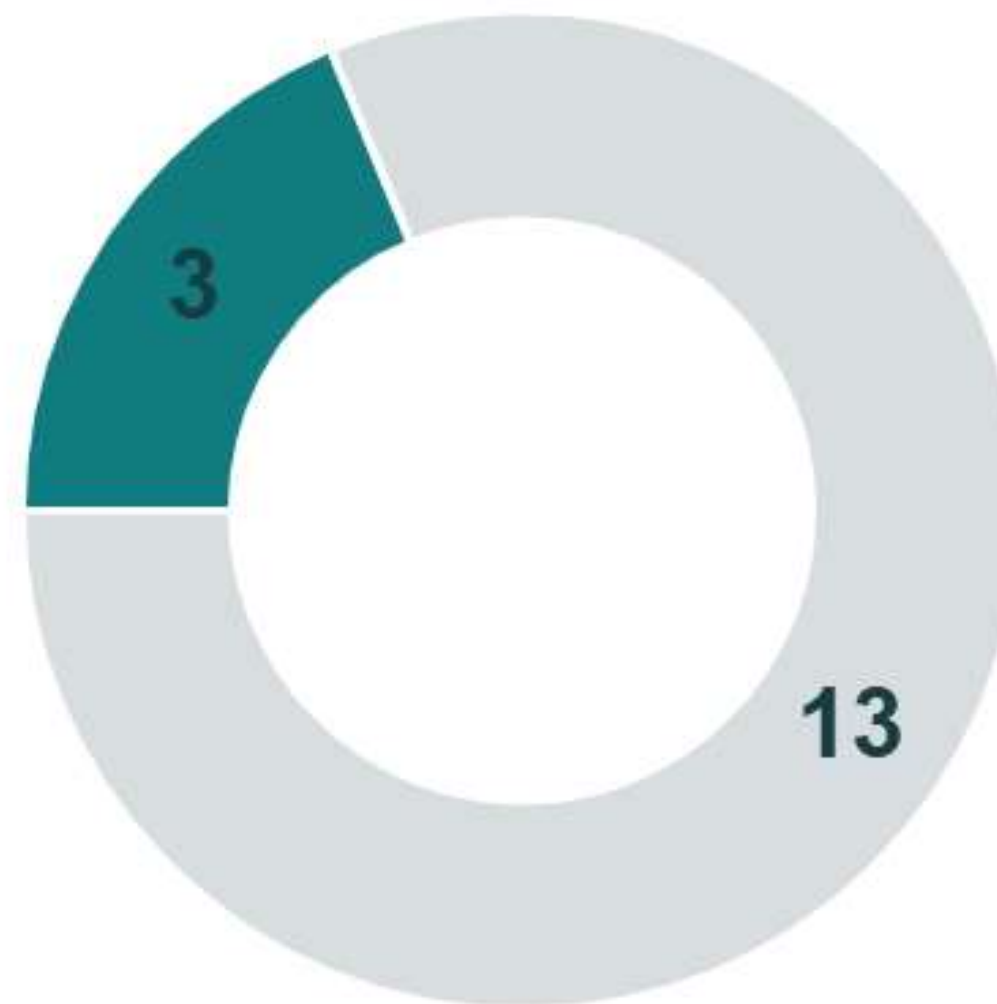


How confident are you in RMI monitoring?



■ Very confident
■ Mostly confident

Would you be interested in a RMI refresher?



■ Yes ■ No

Would you be interested in Urban riverfly training?

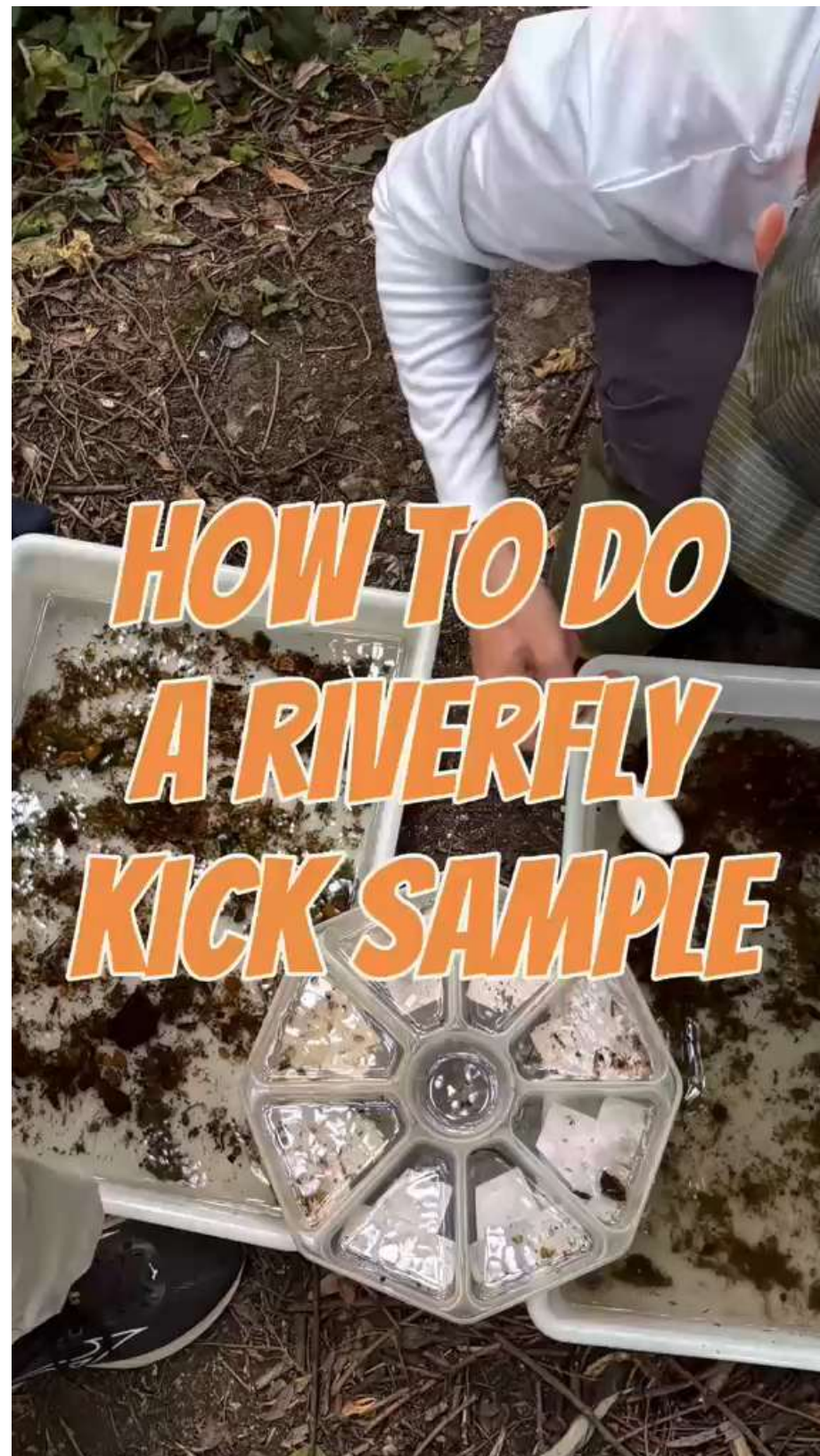
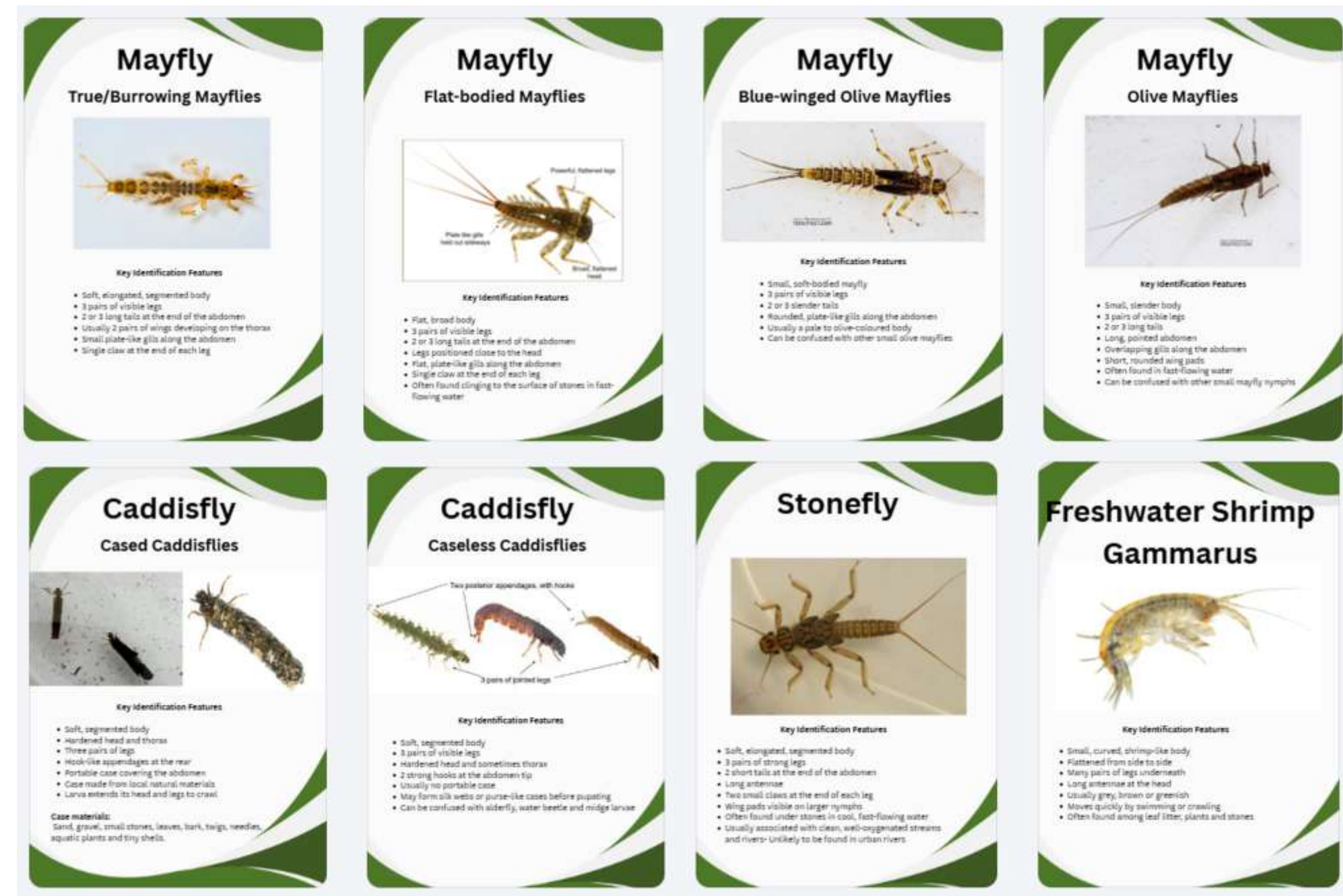


■ Yes ■ Maybe
■ Already trained ■ No

Our response:

Refresher resources, identification guides and opportunities to improve and develop monitoring skills.

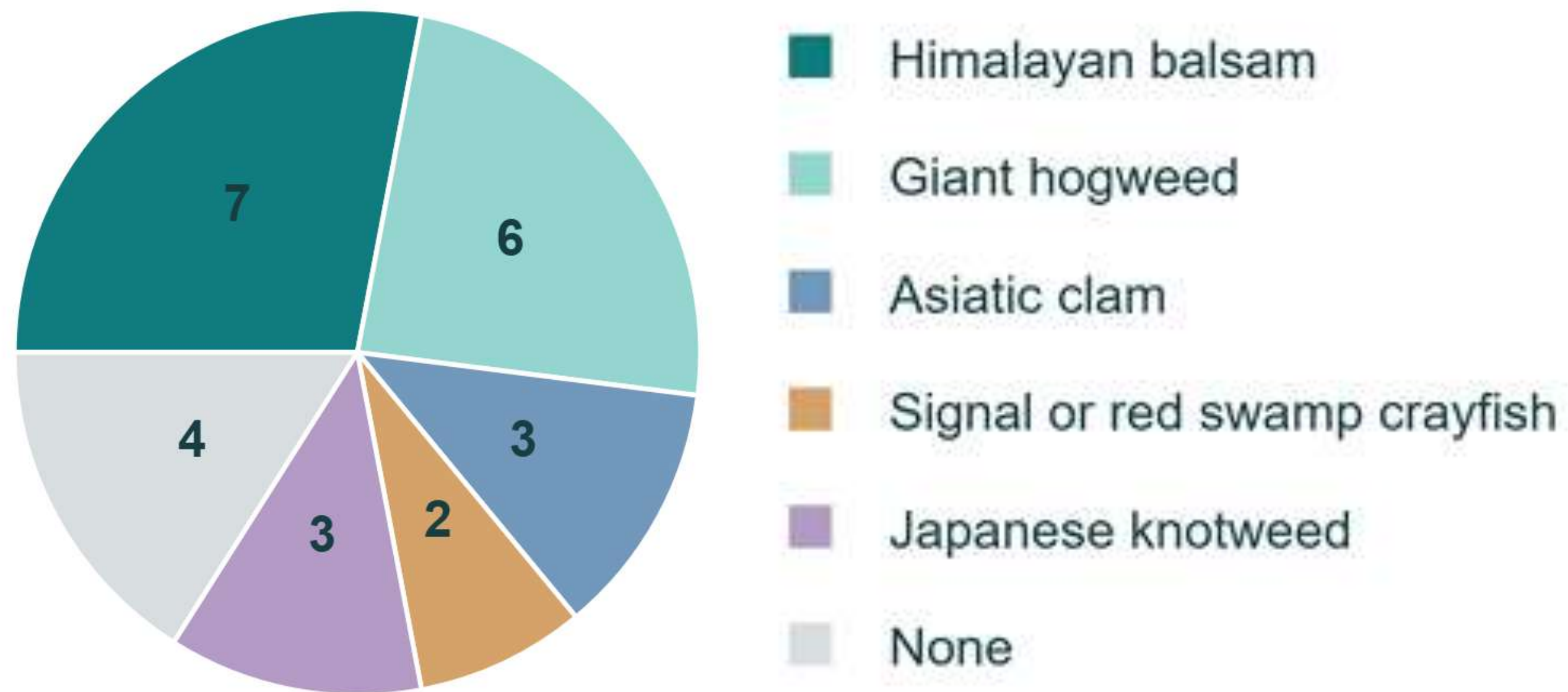
Supporting confident monitoring



Our response:

Refresher resources, identification guides and opportunities to improve and develop monitoring skills.

Invasive Non-Native Species: Observations and support



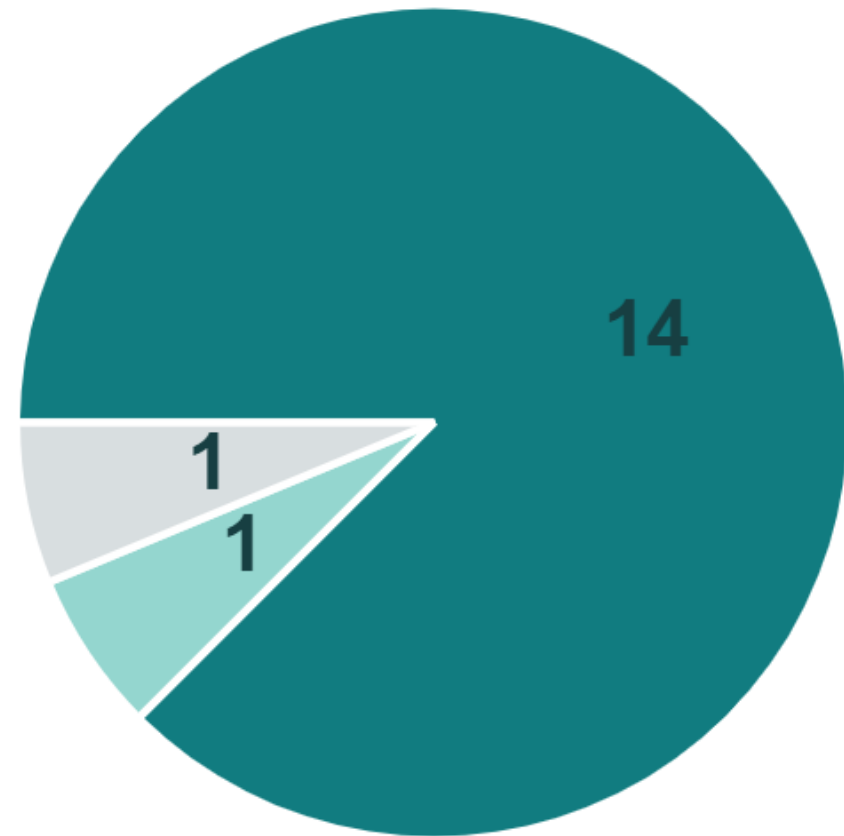
Our response:

Clearer identification resources and guidance on recording and reporting sightings.

Keeping in touch

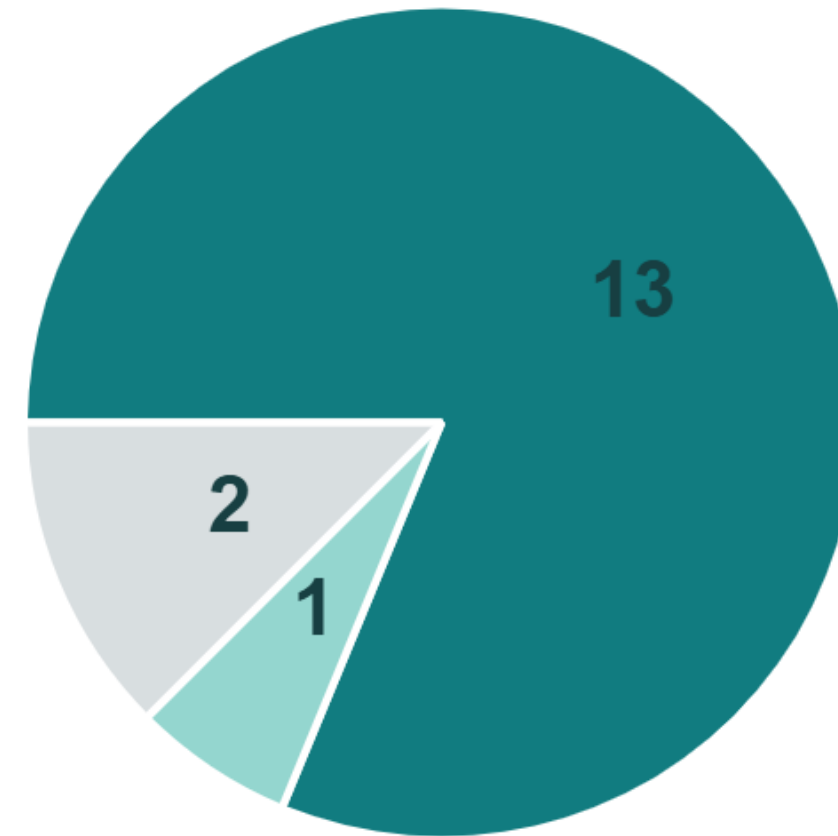


Do you find the Citizen Crane sampling reminder useful?



■ Very ■ Mostly ■ N/A

Would you be interested in joining the Citizen Crane Portal?



■ Yes ■ Maybe ■ N/A

What we heard:

- Positive feedback on the newsletter.
- Interest in the citizen science portal.
- Suggestions about timing and presentation.

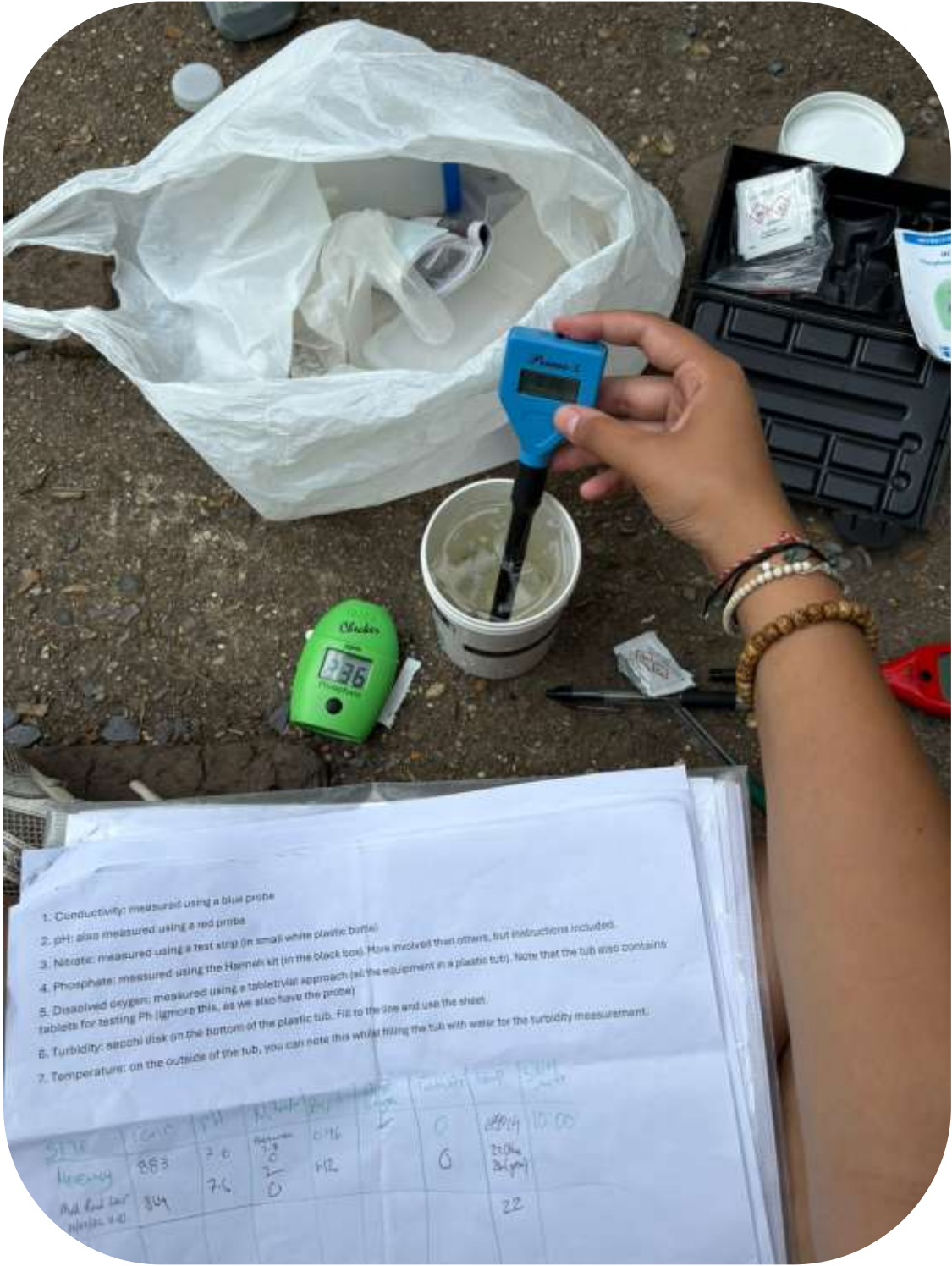
What we're developing:

- Resources that are easy to find and revisit.
- A portal trial with volunteers.

Trialling water quality monitoring



Parameter	Minimum	Maximum	Key observation
pH	7.4	8.7	Generally neutral, slightly alkaline
Conductivity ($\mu\text{S}/\text{cm}$)	852	1,193	Equipment not working for most sites
Nitrate (mg/L)	0.5	5.0	Higher values at Crane Park & Donkey Wood sites
Nitrite (mg/L)	0	1.0	Highest at Stonefield Park
Phosphate (mg/L)	0.46	2.50	Elevated at several sites
Dissolved Oxygen (mg/L)	0	8.19	Equipment not working for most sites
Turbidity	0	40	High readings at most sites
Temperature ($^{\circ}\text{C}$)	20	26	Relatively consistent across sites



What else is happening at our Crane RMI sites?

What's already happening beyond RMI monitoring?

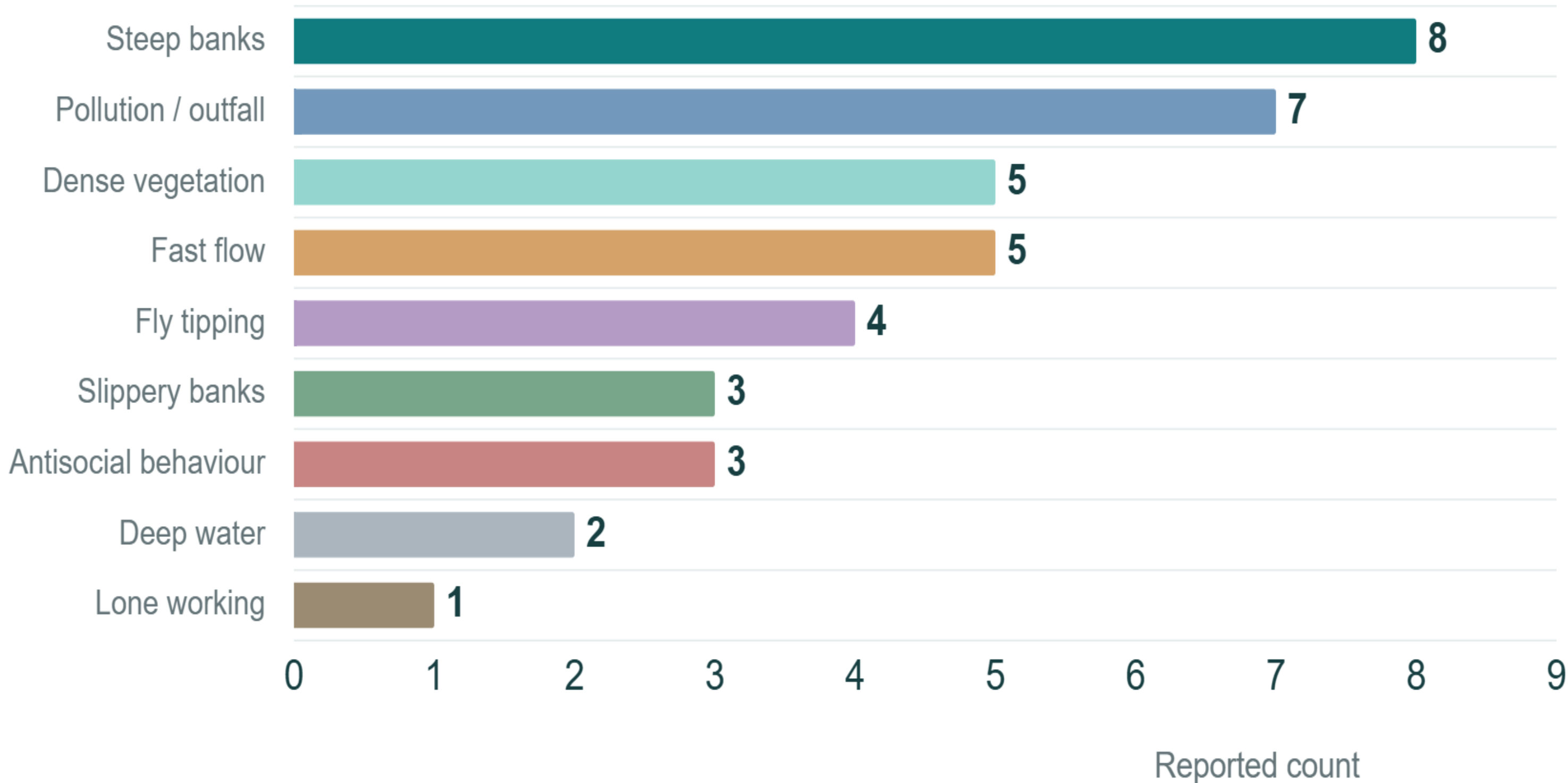
- Water quality testing, including phosphate, ammonia and temperature
- Recording river depth and, at some sites previous flow measurements
- Wildlife recording and habitat observations
- Litter picking and vegetation clearance

What are volunteers interested in exploring?

- Additional water quality testing
- MoRPh habitat surveys



Supporting safe monitoring



Site visits helped us discuss the practical challenges volunteers face including:

- **Access:** steep or slippery banks and dense vegetation.
- **River conditions:** fast flow and deep water.
- **Other concerns:** pollution, fly tipping and antisocial behaviour.

Next step:

Use these discussions to inform site-specific risk assessment reviews.

What happens next?



- ✓ **Training:** refresher materials and identification support.
- ✓ **Monitoring:** explore Urban Riverfly and additional measurements.
- ✓ **Communication:** trial the portal and respond to feedback.
- ✓ **Site support:** follow up on practical and safety needs.



Help shape the next Tour de Crane



<https://www.menti.com/aly6o7wbe61t>

**Joining code:
5393 1335**

Thank you to our Crane volunteers!



Cartographer Tour De Crane
(Helen Moggridge, Cartographer)



Tour de Crane:

The physical character of the Crane RMI sites and its influence on invertebrate communities

AN UPDATE



Dr Helen Moggridge

River Scientist, Consultant and MoRPh Co-ordinator, Cartographer

Contact: hello@cartographer.io



The MoRPh survey: what it tells us

The MoRPh Indices

Channel characteristics

INDEX 1	No. of flow types
INDEX 2	Highest energy flow type
INDEX 3	No. bed material types
INDEX 4	Coarsest bed material
INDEX 5	Average bed material size
INDEX 6	Average bed material class
INDEX 7	Siltation
INDEX 8	Channel physical habitat complexity
INDEX 9	No. of aquatic morphotypes
INDEX10	Riparian Physical habitat complexity
INDEX 11	Riparian vegetation complexity
INDEX 12	Human pressure from land cover
INDEX 13	Channel reinforcement
INDEX 14	Invasive non-native plant species extent

Riparian

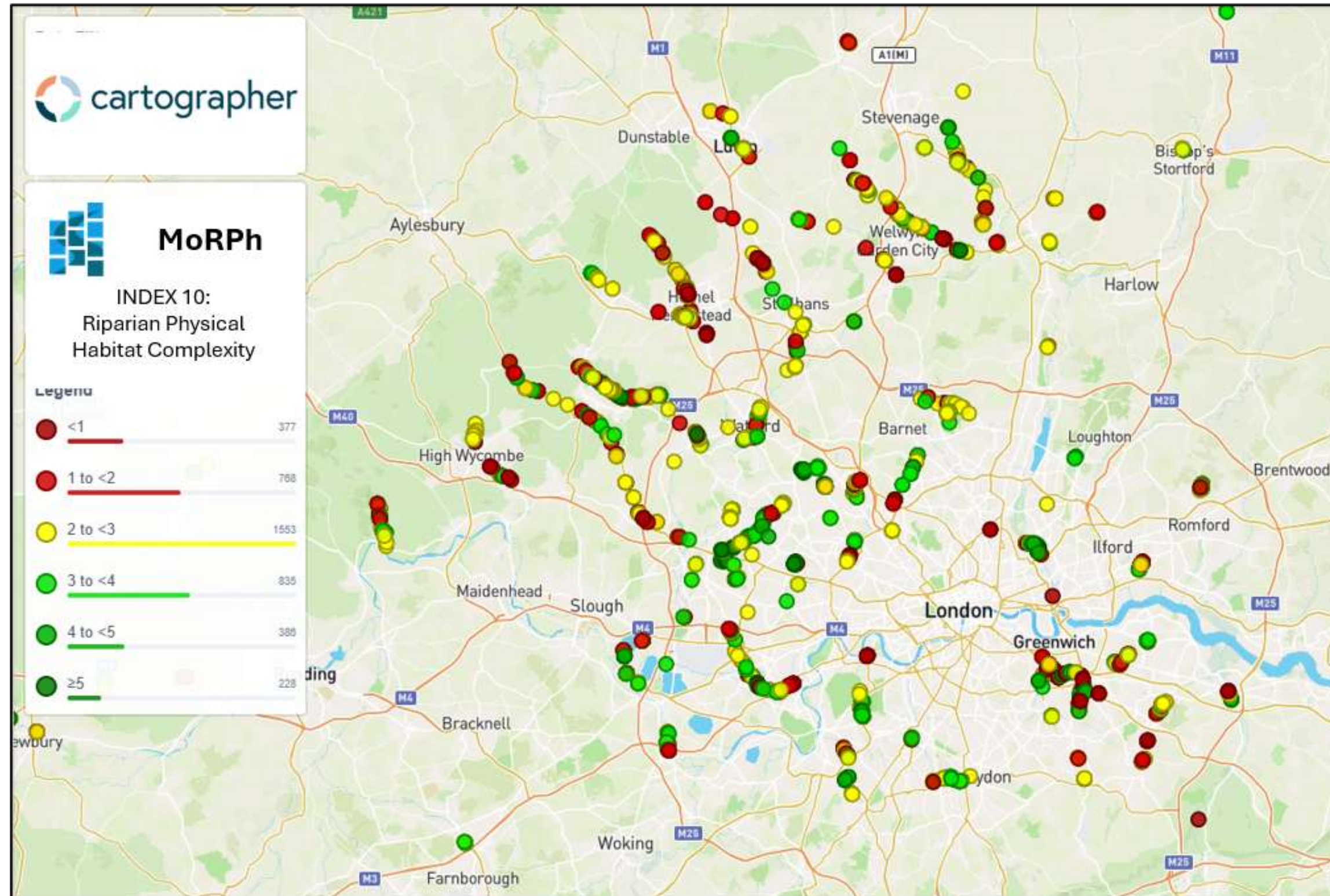
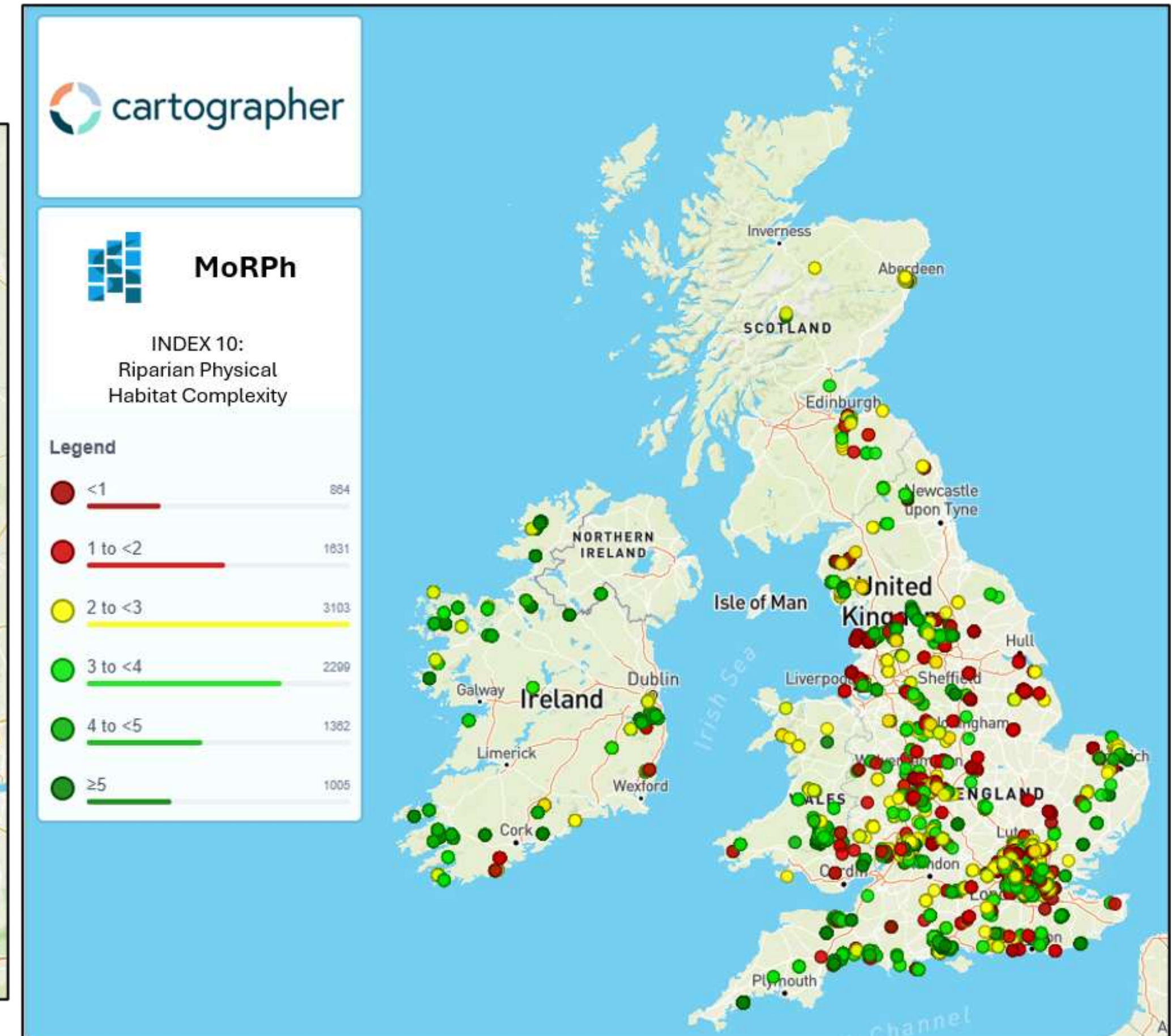
Human





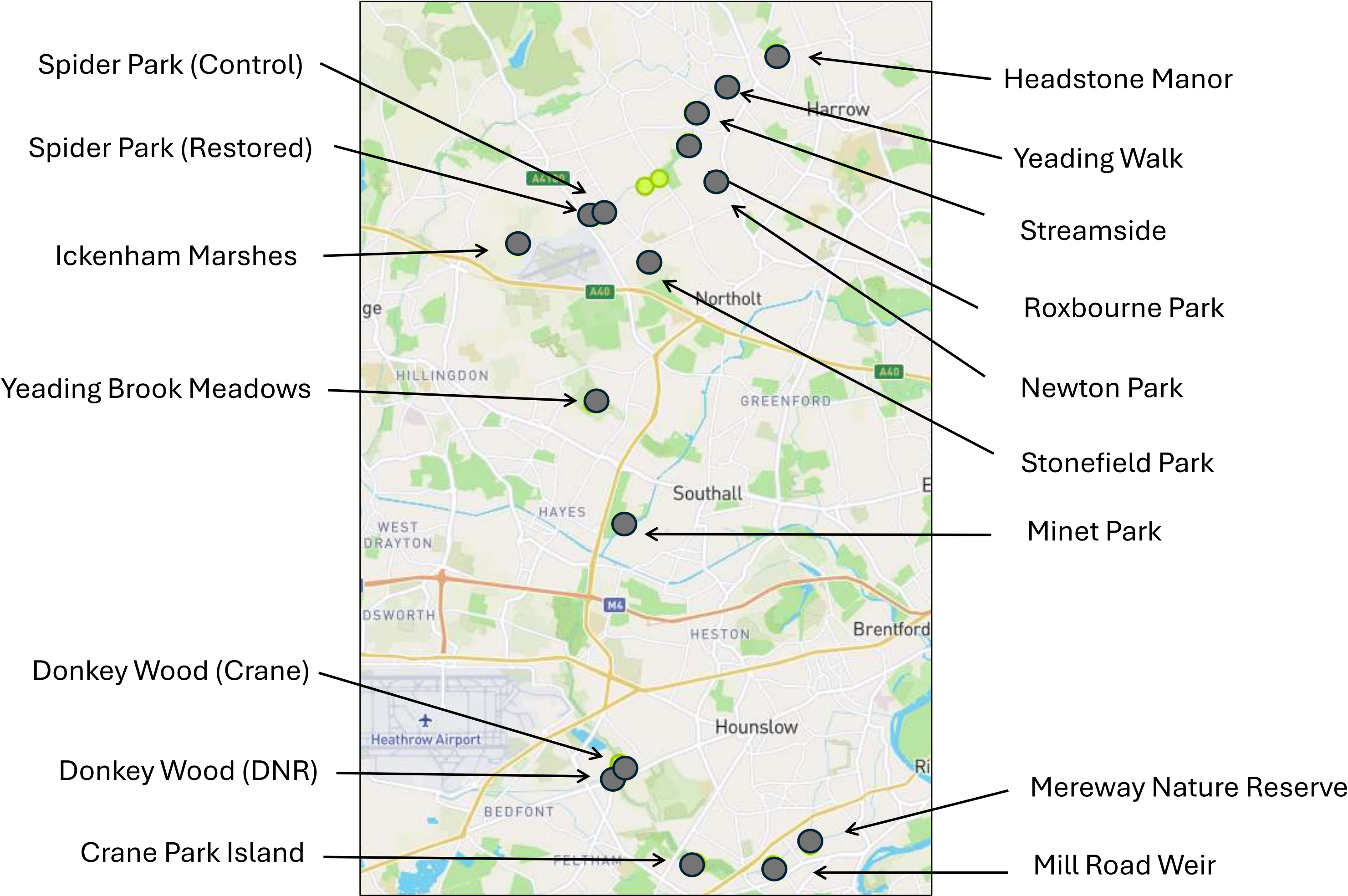
MoRPh CSci: the national picture

KEY PHYSICAL HABITAT COMPLEXITY INDICES



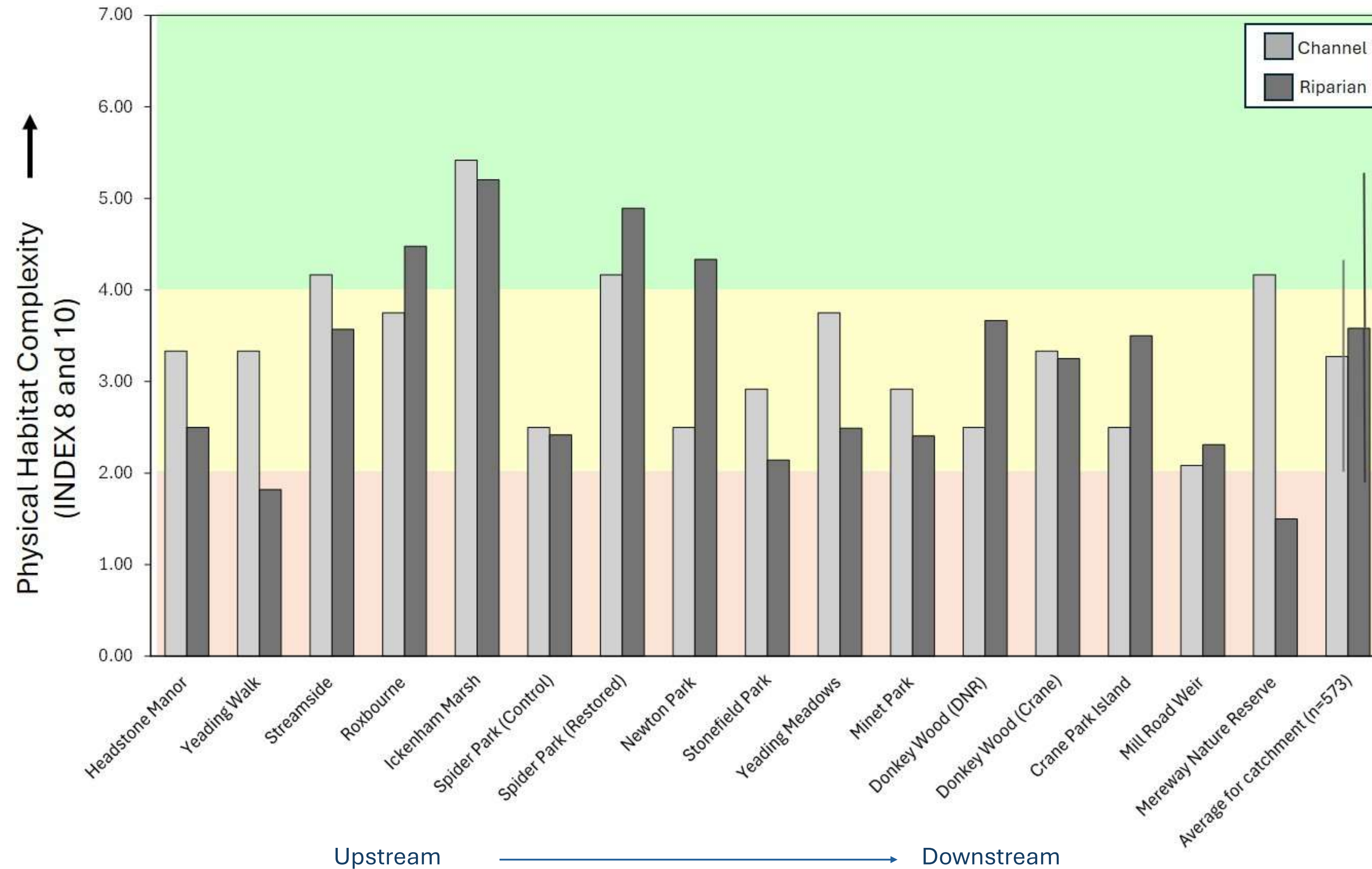
To what extent does the physical character of RMI sites influence the invertebrate communities?

MoRPh surveys conducted at 16 RMI sites



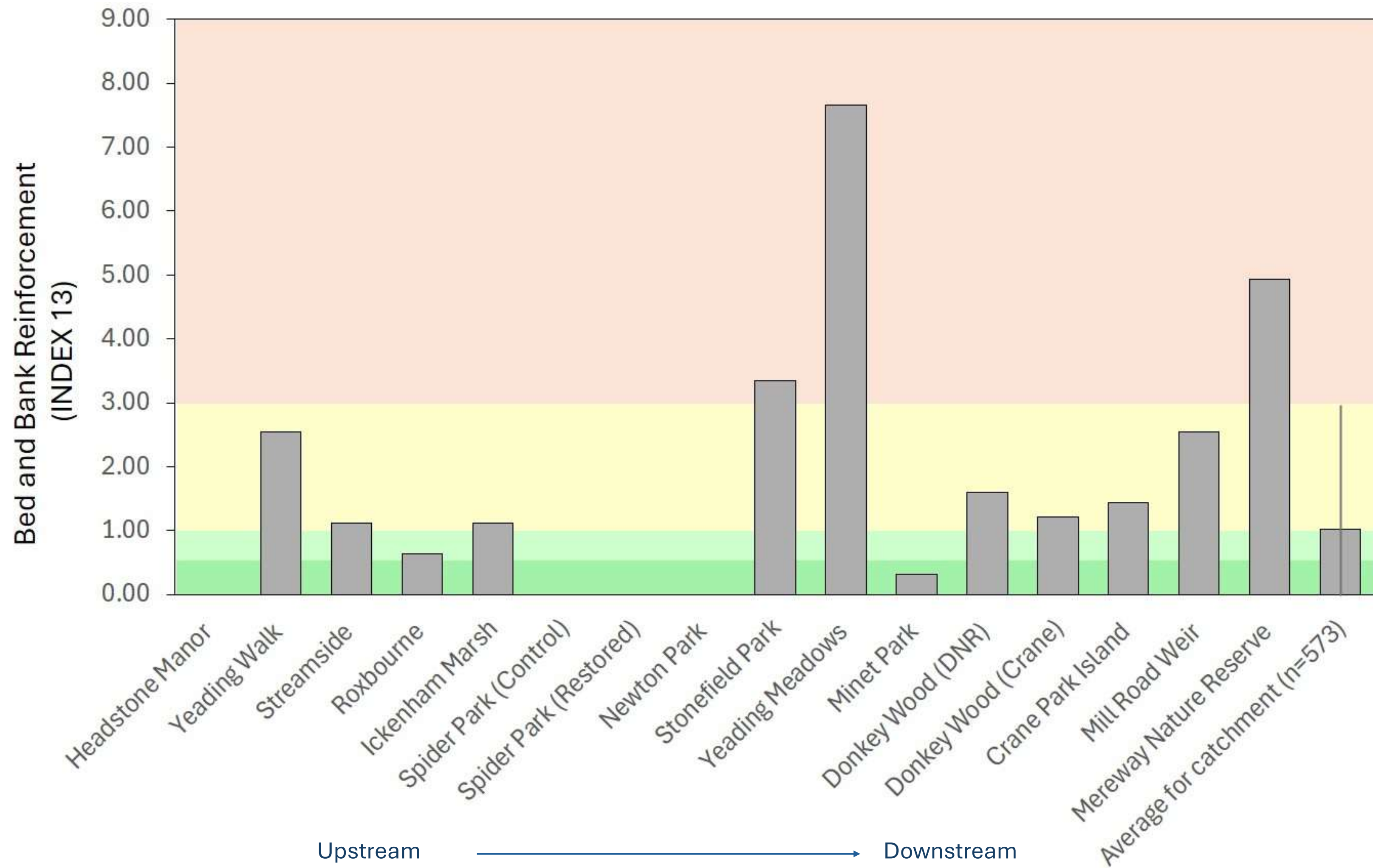


Habitat Complexity of the Channel and Riparian Zone (Bank top and face) of the RMI Sites



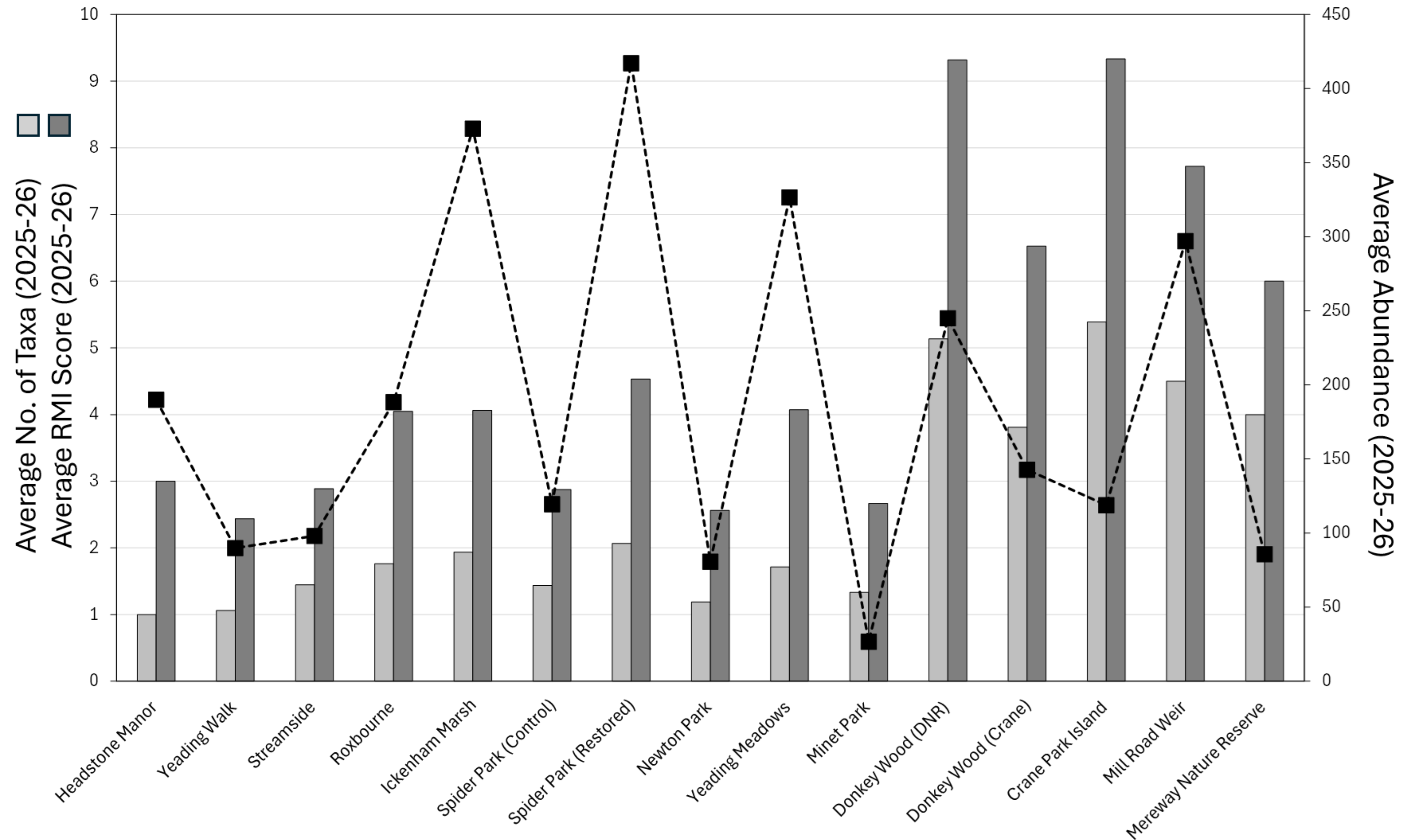


Extent of Bed and Bank Reinforcement of the RMI Sites





Variation in the number of taxa, RMI scores and abundance between RMI sites (2025/26 Data)



The RMI dataset used in this analysis aligns with long-term trends from the Crane....

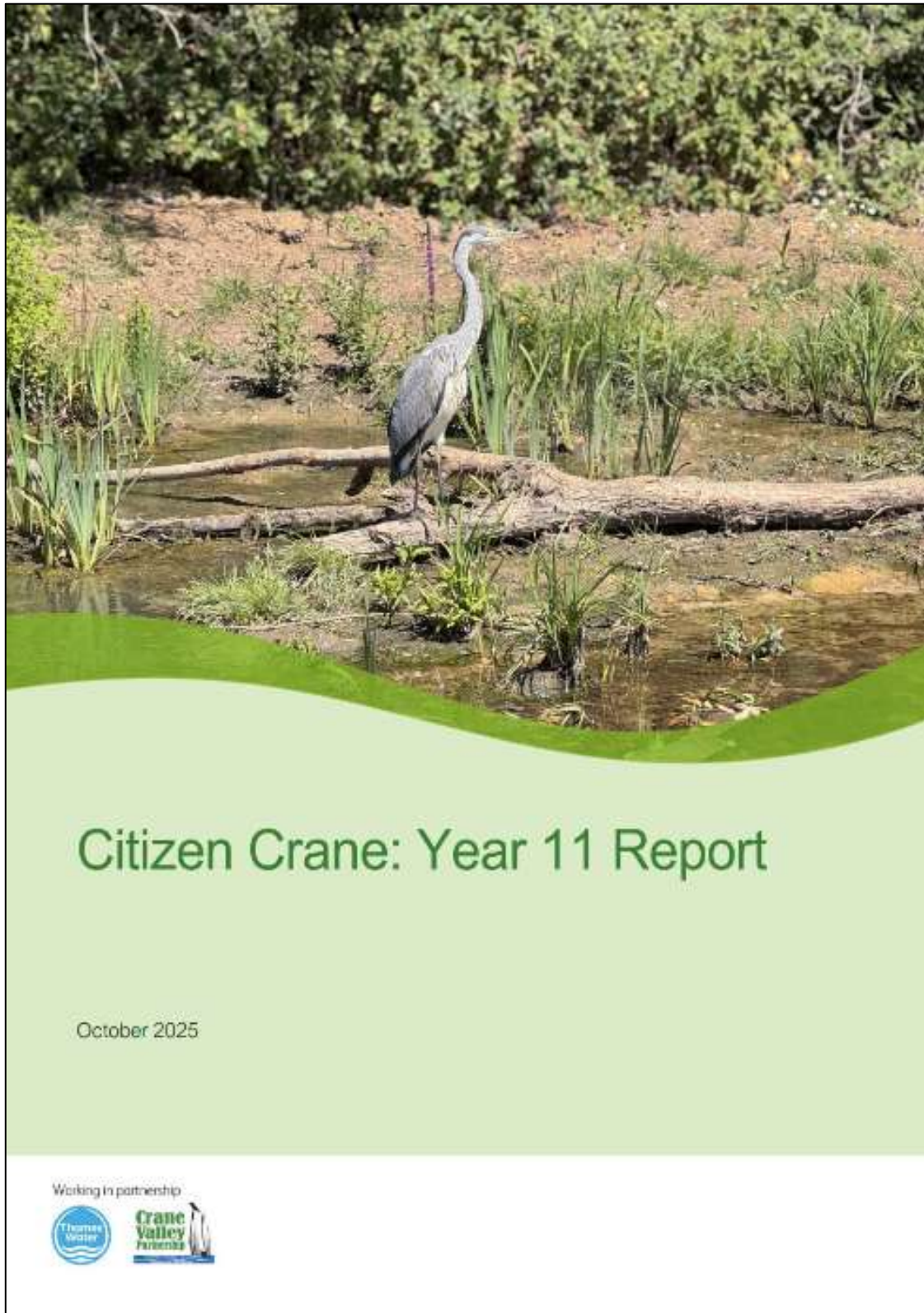
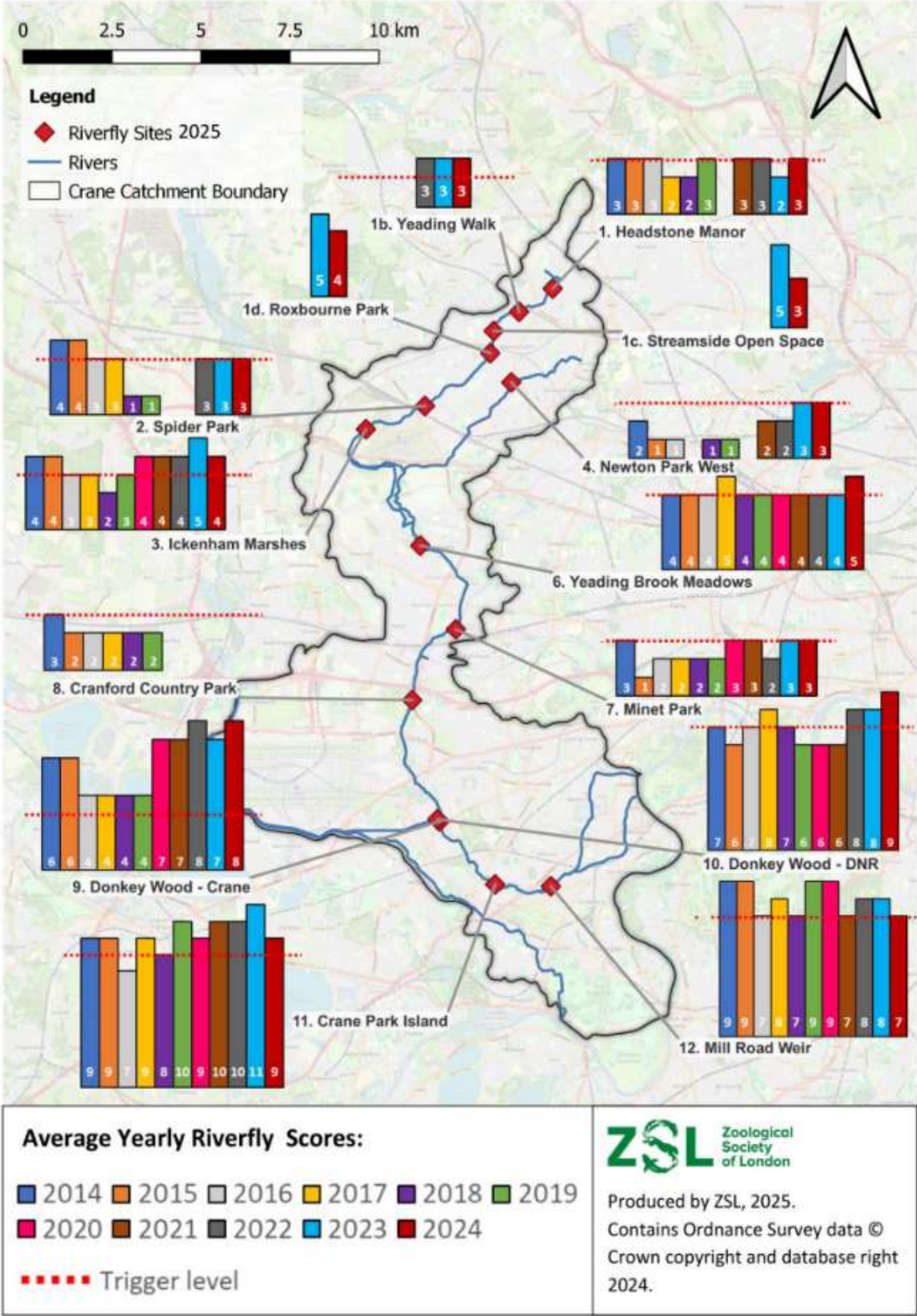


Figure 2.2: Catchment map with Riverfly Monitoring Initiative (RMI) monitoring locations, showing corresponding Riverfly scores and RMI trigger levels where available. 'Average Yearly Scores' are based on mean RMI data for each reporting year (April - March; e.g. 2024 represents April 2024 to March 2025).



To what extent does the physical character of RMI sites influence the invertebrate communities?

Invertebrate response variables	Flow character						Bed material				Vegetation in channel				Trees features				Channel features			Human impacts	
	No. flow types	Flow energy	Unbroken standing waves (extent)	Rippled flow (extent)	Smooth flow (extent)	No perceptible flow (extent)	No. of bed materials	Gravel-pebbles (extent)	Sand (extent)	Silt (extent)	In-channel vegetation (extent)	In-channel vegetation (diversity)	Riparian vegetation complexity	Extent of algae	Riparian wood features	Large wood in channel	Organic accum. in channel	Shade (extent)	No. of pools	No. of riffles	Mid-channel bar (extent)	Channel and bank reinforcement	Siltation
Av. Abundance	0.276	0.523	0.563	-0.478	0.022	-0.077	-0.292	0.226	-0.182	-0.152	-0.400	-0.334	0.090	-0.206	0.550	0.077	0.519	0.376	0.458	0.346	-0.143	0.060	0.667
Av. No. of Taxa	0.144	0.548	0.659	0.253	-0.763	-0.347	-0.371	0.713	-0.055	-0.735	-0.157	-0.122	-0.065	-0.012	0.396	0.116	0.107	-0.294	-0.173	0.094	0.274	0.475	0.087
Max. No. of Taxa	0.134	0.549	0.585	0.344	-0.775	-0.381	-0.336	0.602	0.104	-0.777	-0.078	-0.015	0.028	0.115	0.360	0.180	-0.072	-0.412	-0.323	0.016	0.158	0.610	0.057
Average RMI	0.201	0.701	0.729	0.136	-0.728	-0.255	-0.482	0.597	-0.098	-0.664	-0.274	-0.101	-0.013	-0.035	0.319	0.039	0.026	-0.185	-0.029	0.157	0.246	0.453	0.151
Av. Deviation from target	-0.219	0.315	0.349	0.672	-0.500	-0.594	-0.356	0.586	0.191	-0.534	-0.206	0.004	-0.225	0.384	0.103	0.193	-0.223	-0.409	-0.444	-0.220	0.130	0.291	-0.211
Av Cased caddis ab.	0.212	0.557	0.513	0.411	-0.742	-0.146	-0.130	0.386	0.311	-0.614	0.072	0.314	-0.065	0.300	0.093	0.081	-0.270	-0.544	-0.351	-0.133	0.275	0.746	-0.113
Av. Caseless Caddis ab.	-0.022	0.382	0.479	0.470	-0.815	-0.477	-0.564	0.613	-0.070	-0.821	-0.274	0.034	-0.105	0.190	0.157	-0.042	-0.239	-0.383	-0.389	0.120	0.200	0.365	-0.182
Av. Mayfly ab.	-0.013	0.278	0.522	0.517	-0.836	-0.078	-0.359	0.547	-0.192	-0.711	-0.186	0.063	0.126	0.066	0.120	0.000	-0.390	-0.336	-0.272	0.107	0.138	0.517	-0.209
Av. Blue-winged Olive ab.	0.019	0.539	0.513	0.352	-0.819	-0.235	-0.347	0.413	0.099	-0.658	-0.099	0.140	-0.014	0.286	0.062	-0.044	-0.390	-0.438	-0.336	-0.178	0.294	0.633	-0.076
Av. Flat-Bodied Stone Clinger ab.	-0.299	0.102	0.327	0.101	-0.389	-0.267	-0.419	0.187	-0.237	-0.358	-0.236	-0.232	0.375	-0.236	0.444	0.535	-0.133	-0.430	-0.236	-0.218	-0.133	0.188	0.063
Av. Olive ab.	0.058	0.631	0.260	-0.049	-0.392	-0.610	-0.104	0.515	0.314	-0.480	-0.080	-0.421	-0.103	-0.060	0.413	0.154	0.148	-0.344	-0.041	-0.142	0.663	0.392	0.241
Av. Fwater Shrimp ab.	0.224	0.343	0.251	-0.546	0.251	0.054	-0.130	0.088	-0.223	0.009	-0.338	-0.388	0.130	-0.275	0.462	0.039	0.519	0.547	0.448	0.472	-0.325	-0.047	0.609

Spearman Rank Correlations (**Bold** = statistically significant, $p \leq 0.05$)

- Positive relationship with flow energy (unbroken standing waves) and negative relationship with smooth flow
- Positive relationship with the extent of gravel-pebbles and negative relationship with silt
- Vegetation and shade did not have significant influence
- Reinforcement also had positive influence on some taxa



Initial findings

- Physical habitat was influential on the abundance and diversity of invertebrate samples (from 2025/26).
- RMI can show invertebrate responses for river restoration.
- In urban rivers, some of the complexity is derived from artificial features as much as natural ones.
- Continued integration of citizen science surveys can improve our understanding of the Crane and river restoration outcomes.



Crane Water Vole Reintroduction - Updates

Seshi Humphrey-Ackumey

seshi.humphrey-ackumey@zsl.org



Water Voles



Why are water voles important?



Ecosystem engineer

Prey for native species



Water Vole Declines



UK's fastest declining mammal

Declined by 90%

Reasons:

- Habitat loss
- American mink



Make the Crane a Home for Water Voles



FORCE

Friends of the River Crane Environment

Established 2003



Wild Future



2024: Pre-release Work

- Pre-release checks
- Habitat improvements



2024: Water Vole Reintroduction



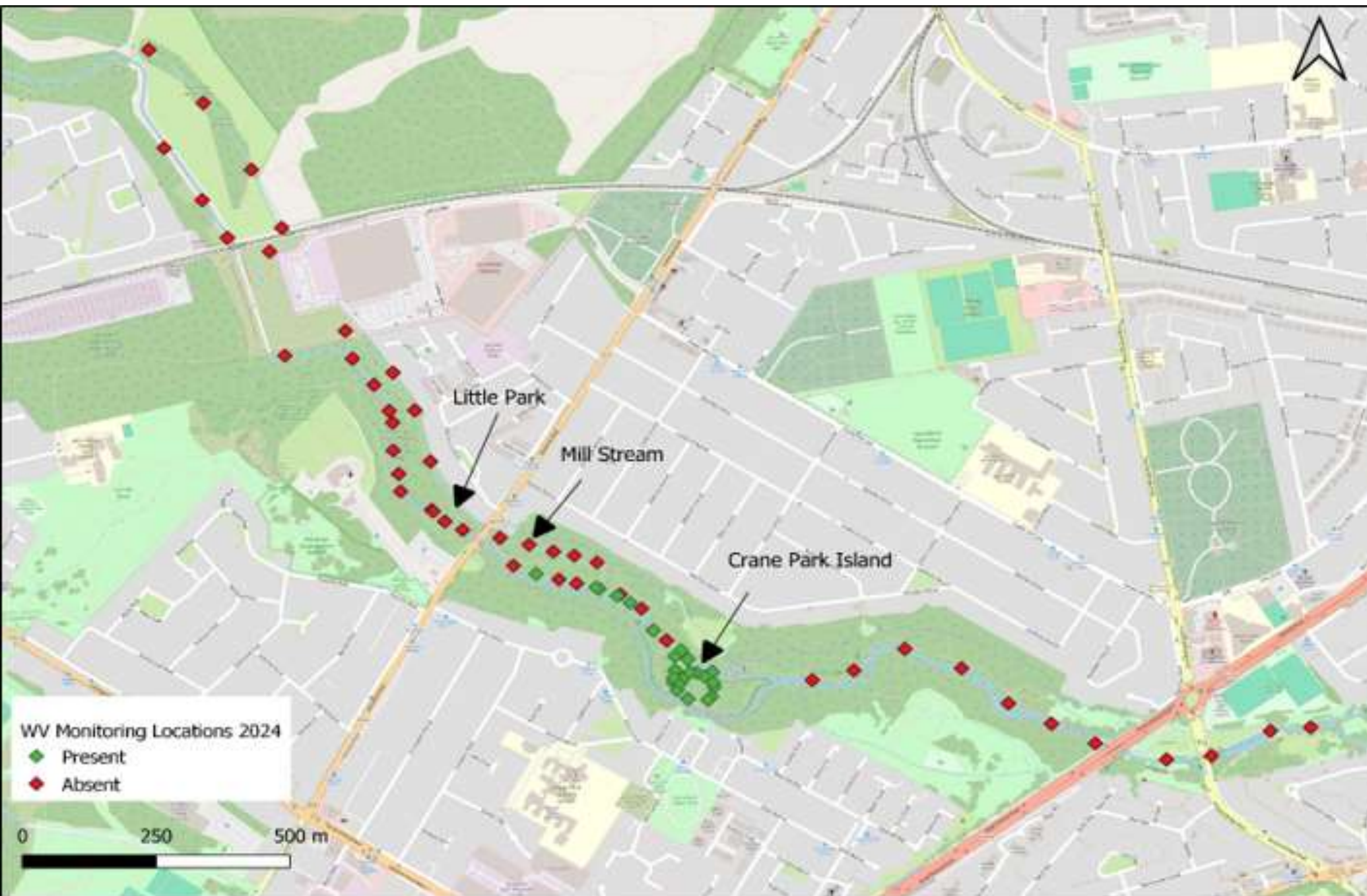
2024 Monitoring: Latrine rafts and camera traps



1. Released voles settled
in the Crane

2. Signs of breeding







2025 Monitoring: Latrine rafts and camera traps





2026 Monitoring: In-channel, latrine rafts & camera traps



1. Overwinter survival and breeding

2. Population growth







Year 2 (2026) Spring Survey Signs

◆ Latrine rafts: field signs present

In-channel field signs

- Latrines
- Feeding
- Active Burrows
- Burrows



12 C

TRAILCAM01

● 08/31/2026 06:21AM



8 C

TRAILCAM01

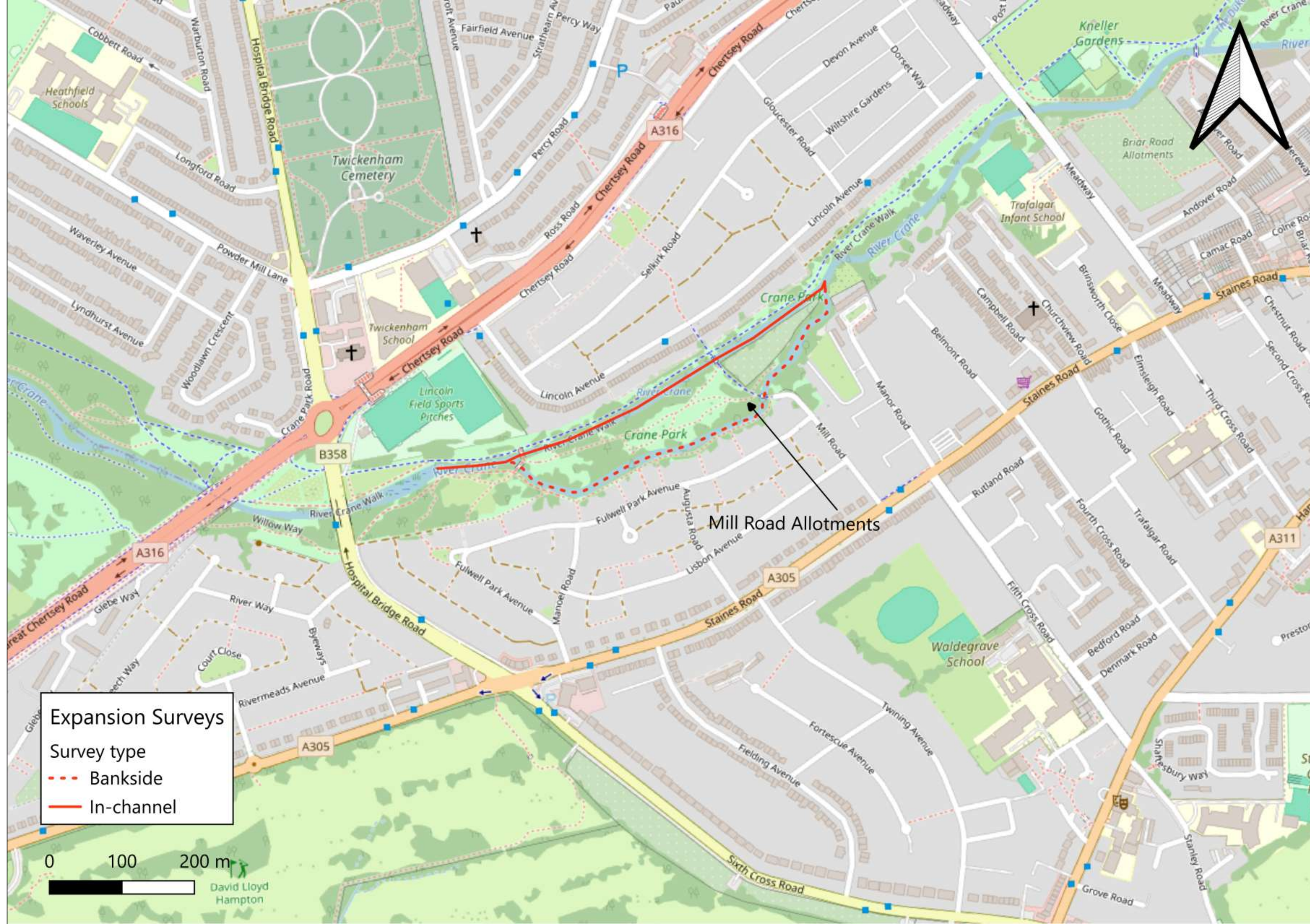
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12 C

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● 09/23/2026 03:29AM

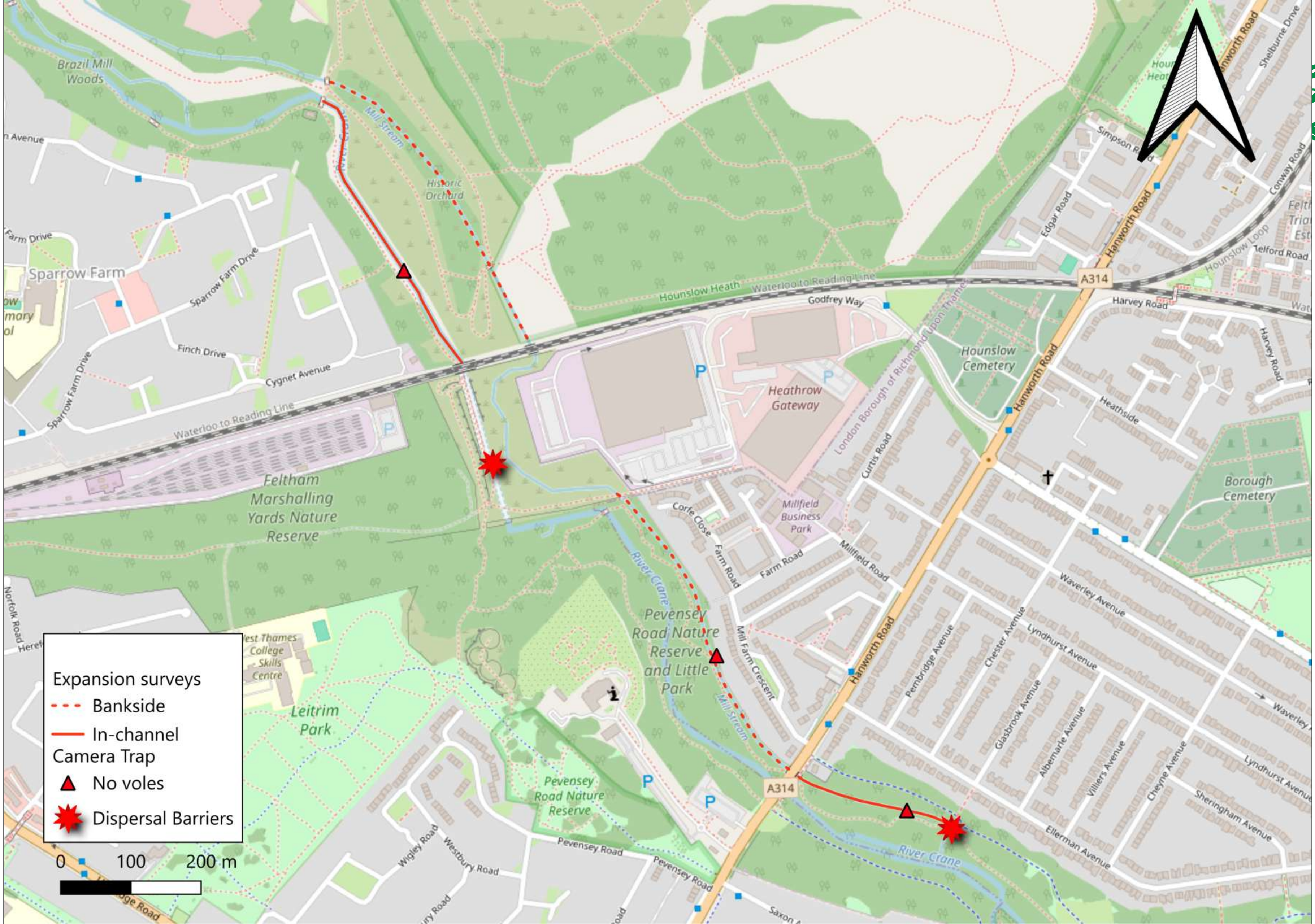


Expansion Surveys

Survey type

- Bankside
- In-channel

Mill Road Allotments



Expansion surveys

- Bankside
- In-channel

Camera Trap

- ▲ No voles
- ★ Dispersal Barriers





31C

TRAILCAM01

08/10/2026 02:19PM



13 C

TRAILCAM02

07/20/2026 08:19AM



8 C

TRAILCAM02

07/20/2026 04:10AM



14 C

TRAILCAM01

09/14/2026 06:41PM

Conclusions & Next Steps



- **In-channel surveys**
- **Monitoring downstream**
- **2027 Reintroduction**



Thank you for listening

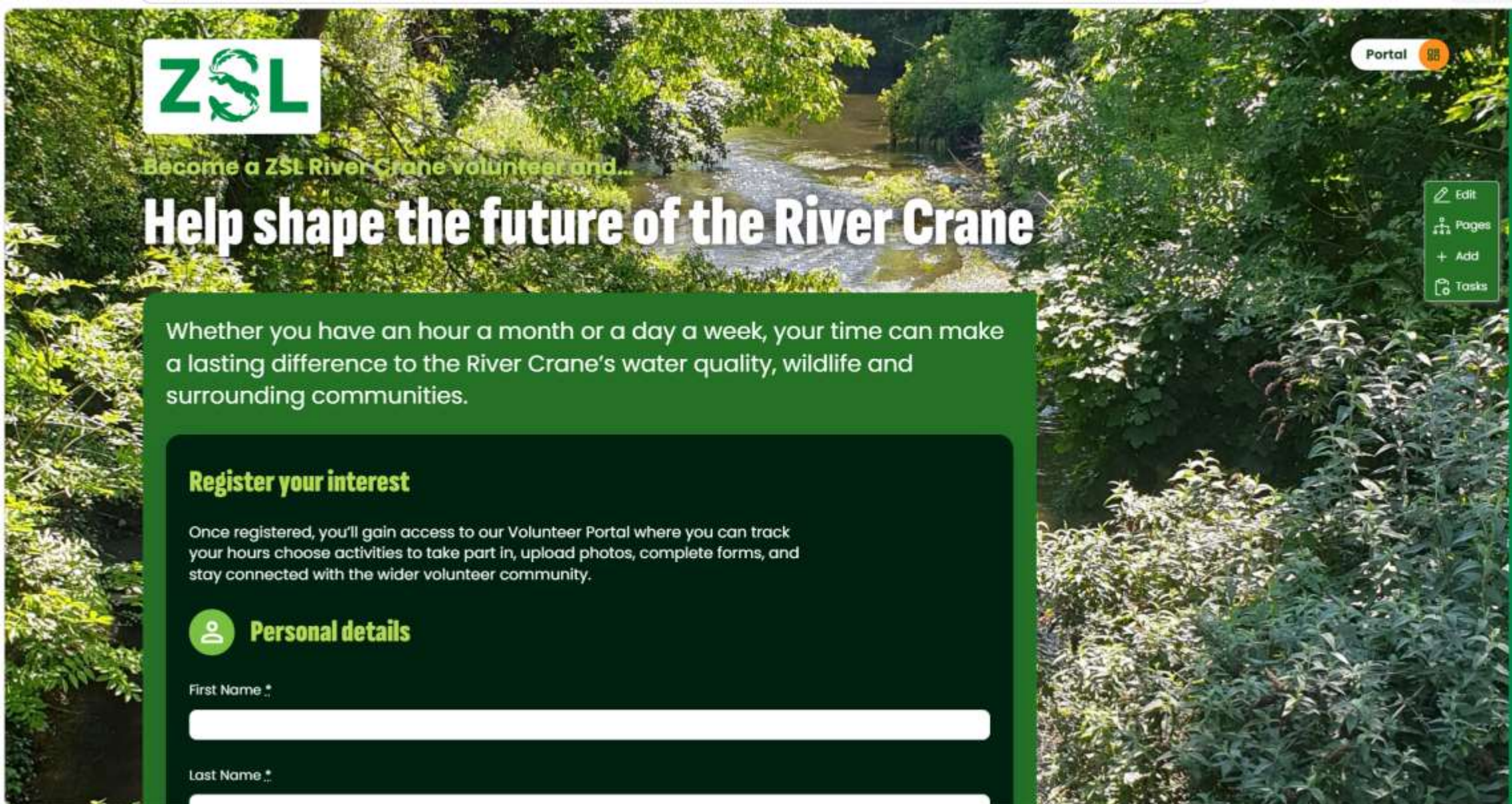


Citizen Crane Updates & Next Steps

Azra Glover (ZSL) azra.glover@zsl.org

THE PORTAL IS FINALLY HERE





Introducing the Volunteer Portal

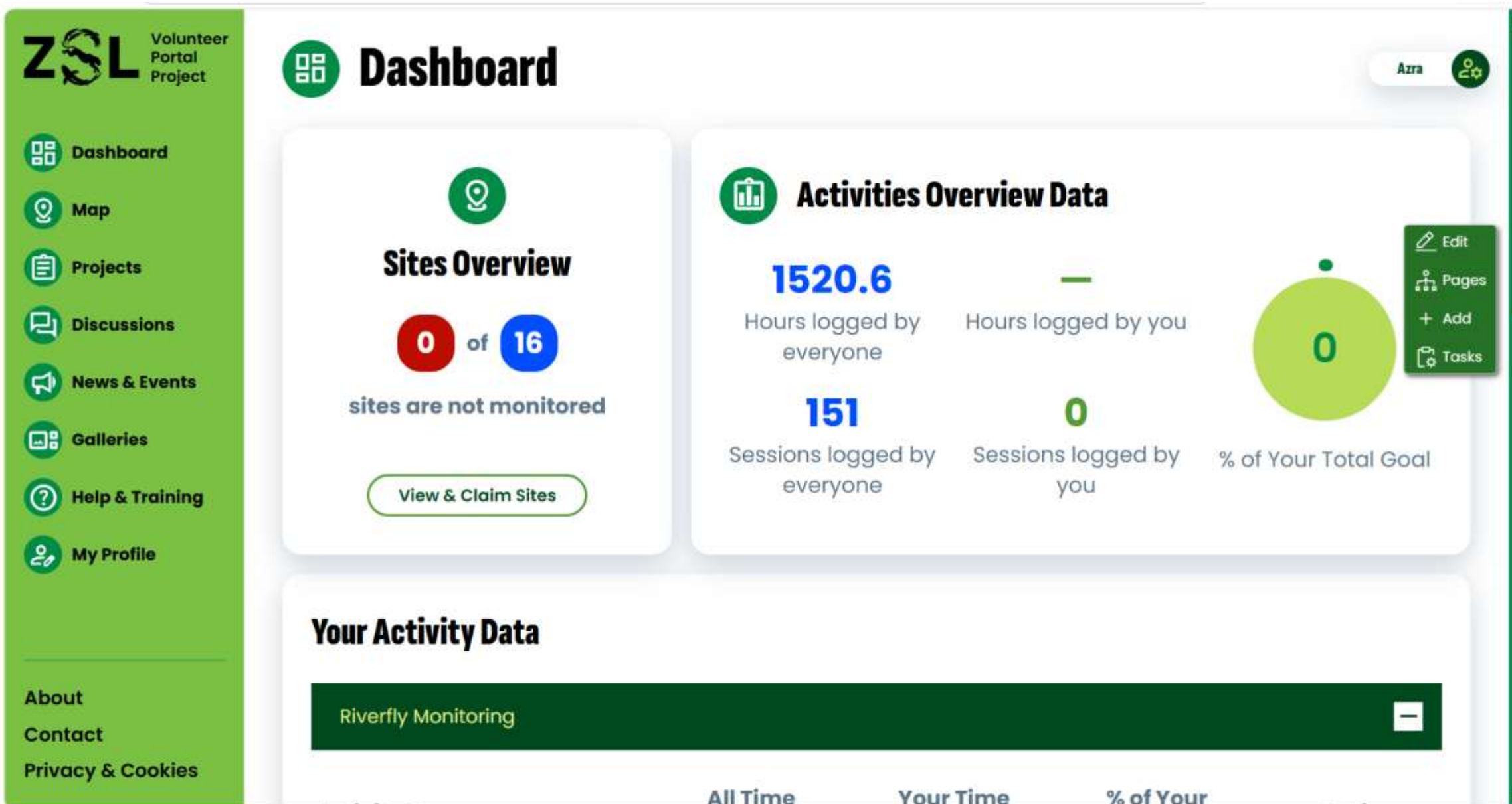


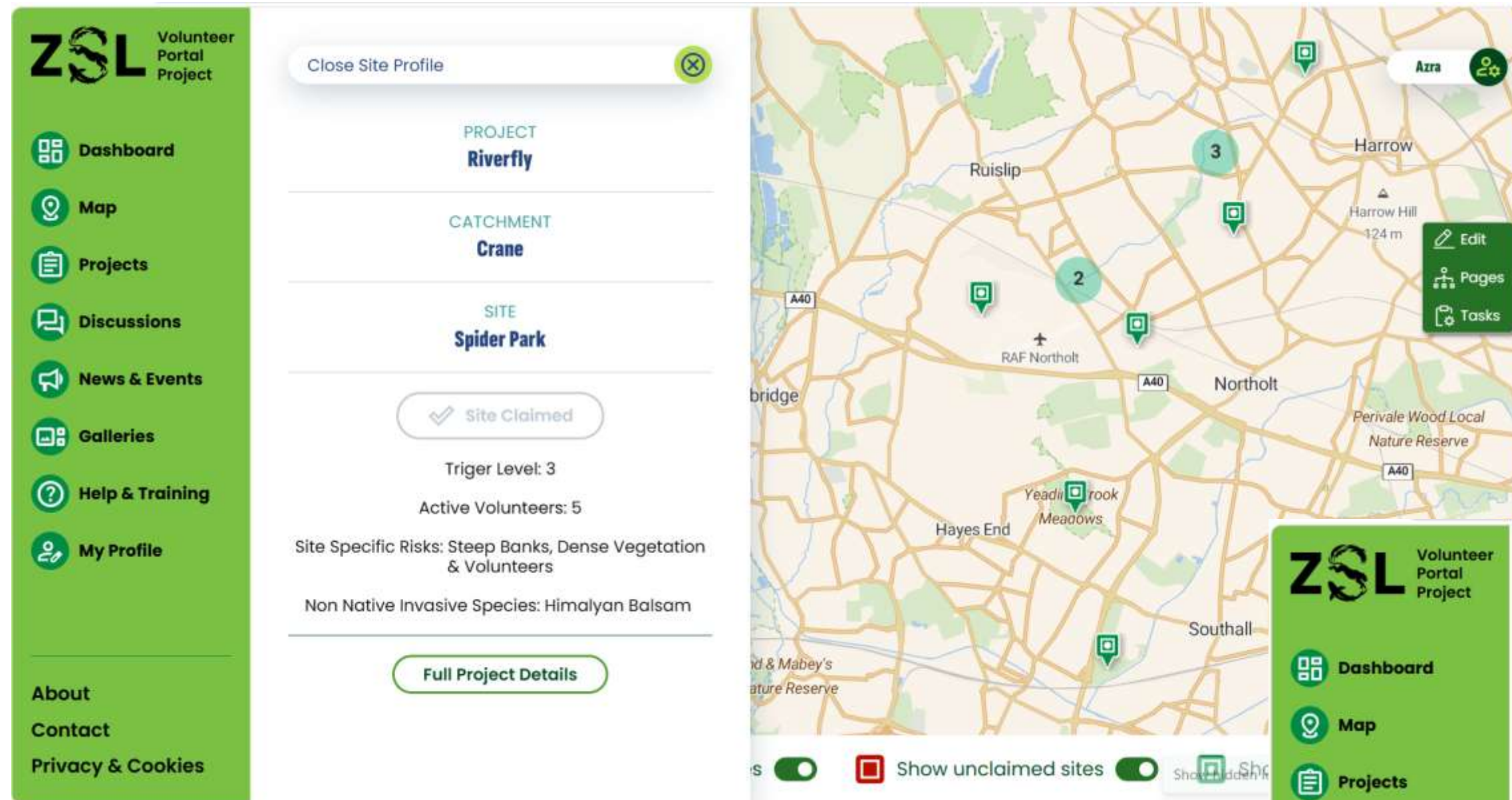
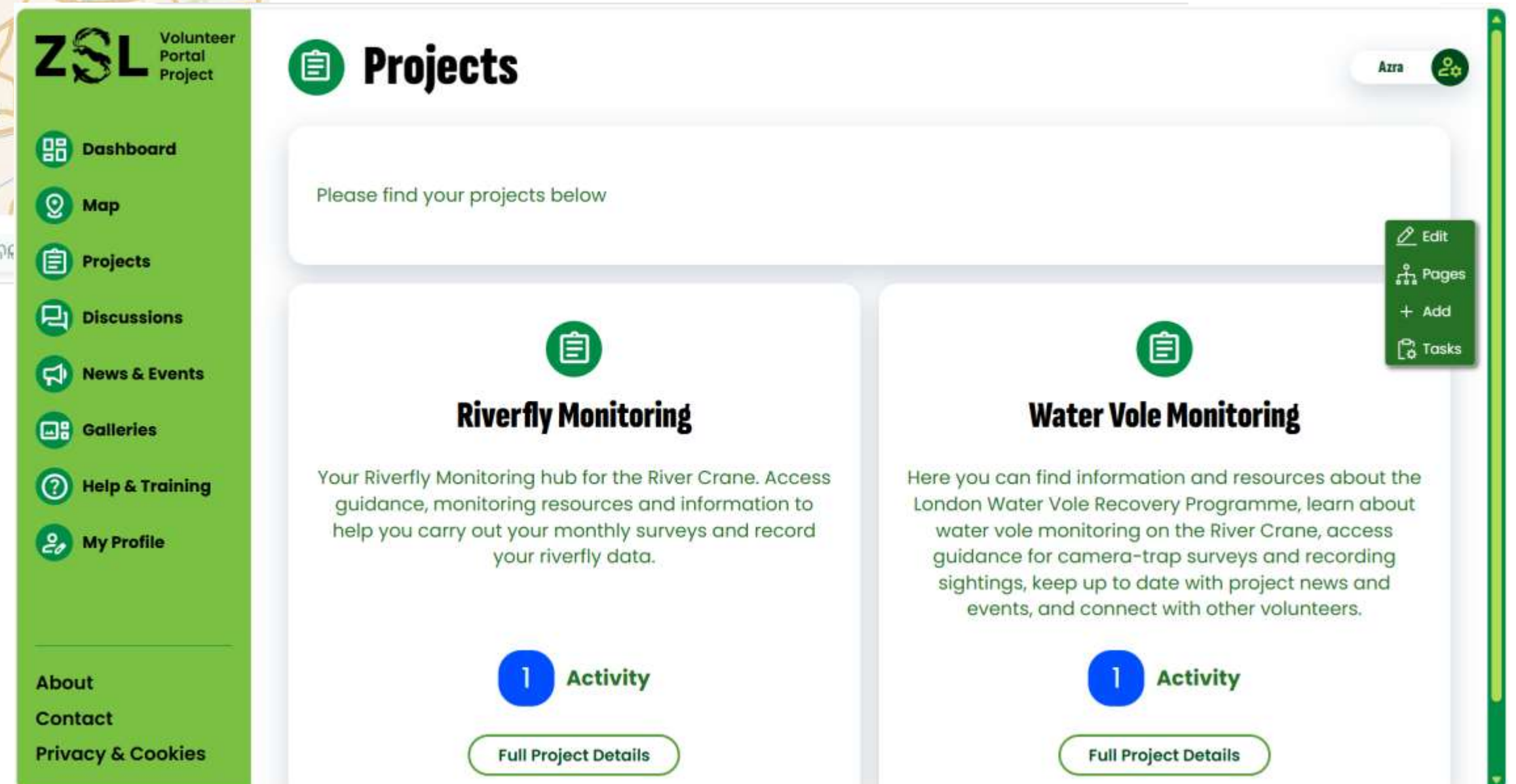
A new online space to make it easier to get involved, access resources, share experiences and keep track of your volunteering activities.

Once logged in, you'll be able to:

- Claim a monitoring site for the activities you're signed up to.
- Access project information and resources, including recording sheets, risk assessments, ID guides and additional guidance.
- Share photos and experiences and connect with other volunteers through discussion threads.
- Stay up to date with the latest project news, events and opportunities.
- Track your volunteering hours and see the time you've contributed.
- Get recognised for your contributions, with the potential to earn rewards for your volunteering efforts!

Our aim: To create a central hub that makes volunteering easier, more connected and more rewarding for everyone.





Galleries

Tour de Crane



Tour de Crane 2026

View Gallery

Water Voles



Water Voles in The Crane

View Gallery

Headstone



Share your monitoring site photos here.

View Gallery

Streamside



Spider Park





News

News

Our Citizen Crane Report is here!

Discover what a year of data collection has revealed and how your contributions have made a real difference to conservation. Read our [report](#) to explore the findings and see how your efforts are helping protect River Crane.

Latest Article

Events

- [Grange Park River Restoration Monitoring](#)

11 November 2026 10:30 am to 3:30 pm
- [2026 London Citizen Science Forum](#)

24 November 2026 10:00 am to 3:00 pm

Add to my calendar

Provide Feedback

If you have any feedback that you wish to provide privately to the administrator please complete our feedback form.

Feedback Form

Next Steps: Rolling Out the Portal



- **Phased roll-out:** We'll introduce the portal gradually, starting with volunteers who have already expressed an interest in piloting it. And then we will contact each group to get everyone (that would like to be) set up.
- **Your feedback matters:** A short survey will help us refine and finalise the portal's functionality before wider roll-out.
- **Before accessing the portal:** All volunteers will be asked to read and agree to three new documents:
 1. Volunteer Code of Conduct
 2. Master Risk Assessment
 3. Volunteer Fieldworker Protocol

Get involved! We really encourage everyone to give the portal a go. Its success depends on volunteers actively using it, sharing feedback and helping us improve it as we go.



Upcoming Activities/Events



London Citizen Science Forum



24th November 10am – 2pm

ZSL will be hosting the Annual London Freshwater Citizen Science Forum

2pm – 3pm Youth Networking & Skill Session

A chance to network and learn more about jobs in conservation

Restoration Monitoring Blitz @ Grange Park, Hillingdon



Tuesday 11th November 10:30am - 3pm

Pre restoration monitoring @ Grange Park, Hillingdon – help us record baseline conditions before restoration begins in the next couple of months!

Portal Feedback Survey



Scan the QR code

Help us improve our upcoming Citizen Crane Portal by sharing your insights and feedback.



Crane Valley Communications

October 2026 • ProsperWith



Building awareness and appreciation of the Crane Valley's rivers and open spaces

Driven by the **Catchment Plan 26-30**

'A River Runs Through Us'

– Increase public awareness and appreciation of the Crane Valley's rivers and associated open spaces and encourage active engagement.



1

“Always On”

Regular pulse of social media delivering content in line with Story celebrating the work of Partners across the catchment

2

Key Activity - Highlighting major work

- Crane Valley River Path
- Business
- *Water Voles*
- *Citizen Science and nature recovery*

3

Basic infrastructure – Building a communications ecosystem

Web, map, interlinked social etc.
Story tools for use by partners

Partners of the Crane Valley

Core principles

These principles outline how the Crane Valley Partnership works with partners to protect, enhance and celebrate the River Crane and its surrounding environment.



Shared purpose first

We work with organisations who share a common goal: protecting and enhancing the Crane Valley for people, wildlife and future generations.



Community-led approach

We prioritise partnerships with organisations that are rooted in local communities and help amplify grassroots voices and participation.



Collaboration over ownership

No single organisation owns the Crane Valley. We work collaboratively, recognising that collective action delivers the greatest impact.



Shared storytelling

We actively tell stories together across social media and communications channels, ensuring partners are credited and represented.



Co-created content

We create content in partnership, including volunteer stories, project updates and wildlife features, to reflect shared impact.



Cross-channel amplification

We support each other by sharing, tagging and reposting content to extend reach and grow collective audiences.



Campaign planning & alignment

We plan activity in advance, aligning messaging and storytelling where possible, providing shared assets and encouraging partners to adapt them in their own voice.



Growth in value & appreciation

Partnerships should create value for all involved, and the natural environment, recognising the different strengths each organisation brings.



Complementary roles

We recognise that partners play different roles, and together these contributions deliver a stronger overall outcome.



Visibility and recognition

We actively celebrate and promote our partners, ensuring their contributions are visible and appreciated.



cranevalleypartnership



“This is amazing!”



cranevalleypartnership

Remember this water vole footage?



cranevalleypartnership



Tour de Crane 2026

4 days.
17 sites.



cranevalleypartnership



Wildlife

Wednesdays



Muntjac

Busy West London above.
Completely unbothered below.





Share your Crane Valley Story

*A river runs through us, and
we'd love you to be part of it...*

- 1. What to share
- 2. Tips for capturing content
- 3. Prompts
- 4. How to share

Permission to use your content

By sharing your content, you're happy for the Crane Valley Partnership to use it on social media and our website, edit it slightly (e.g. trimming a video or adding text), and credit you where possible.

1. What to share

Stories of the Crane Valley

People, volunteers, community moments

Videos
Photos
Short written anecdotes

Wildlife of the Crane Valley

Animals, birds, nature in action

Photos
Short clips

Beauty on your Doorstep

Peaceful, beautiful moments along the river

Photos
Short clips

This Month's Haul

Unusual items found during clean-ups

Photos of items pulled from the river

Partners of the Crane Valley

Showcasing partner events and their work

Event promotion
Event content/coverage
Organisation work

Share your Crane Valley Story

1

2. Tips for capturing content

*Don't worry about perfection -
authenticity is best!*

1 Use your phone - no special equipment is needed

2 Film short clips (10-30 seconds long)

3 Hold your phone steady

4 Try to capture content in natural light

5 Take a mix of wide shots and close-ups

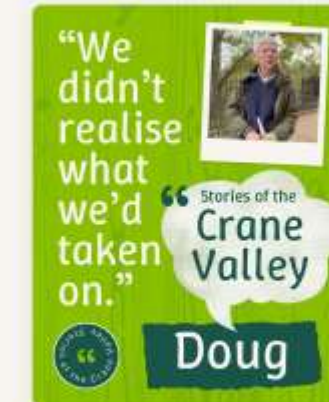
6 Shoot portrait (unless horizontal particularly benefits the shot)



Share your Crane Valley Story

2

3. Prompts



Stories of the Crane Valley

- What do you love most about the river?
- What is your most magical River Crane/ Yeading Brook moment?
- How does the river create connection in your life?
- What is the most surprising thing you've seen on the river?

Don't forget to include:

- Your name
- Your social media handle
- Any organisations you are part of and for how long

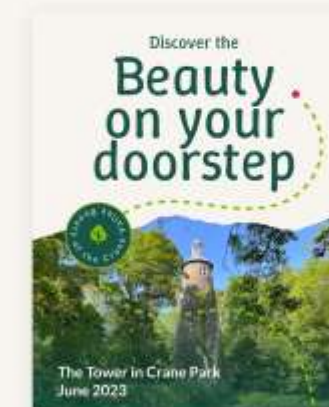


Wildlife of the Crane Valley

- Date, time and location of what you're sharing
- Describe the wildlife activity taking place in one sentence
- Any interesting background
- Other thoughts

Don't forget to include:

- Your name
- Your social media handle
- Any organisations you are part of and for how long



Beauty on your doorstep

- Date, time and location of what you're sharing
- Describe the beauty you're capturing in one sentence
- Any interesting background
- Other thoughts

Don't forget to include:

- Your name
- Your social media handle
- Any organisations you are part of and for how long

Share your Crane Valley Story

3

3. Prompts



This Month's Haul

- Date, time and location of what you're sharing
- Write a list, including quantities, of what you've pulled out of the river
- Share photos of the items
- Include a 'before' and 'after' photo of the river, where possible

Don't forget to include:

- Your name
- Your social media handle
- Any organisations you are part of and for how long

Partners of the Crane Valley



Tell us about your organisation:

- Your organisation name
- Their social media handle
- Their logo (and share the file with us)
- Their website

Tell us about the event:

- Event name
- Date
- Time
- Location (include what3words)
- Booking link

4. How to share

Fill out the following Google Form:

[Link to be confirmed](#)

You must be logged into a Google Account

You can use an existing email address to create one — it doesn't have to be a Gmail address.

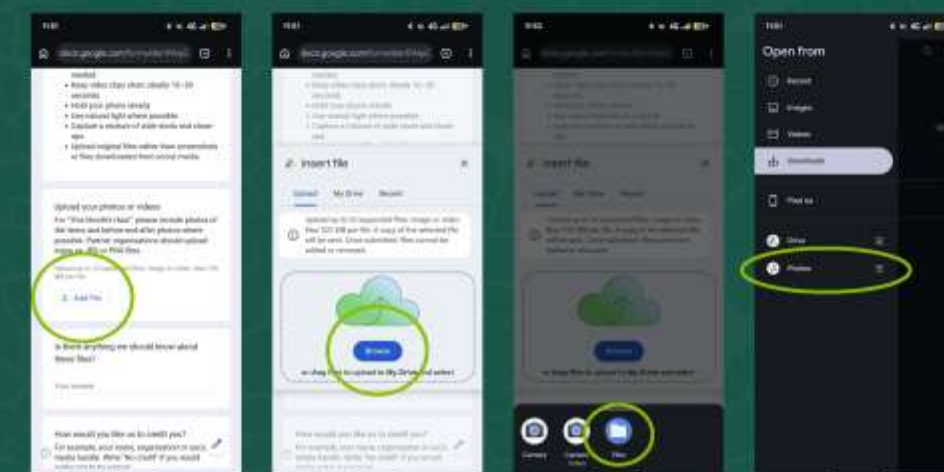


If you have any questions, please email admin@cvcic.org.uk

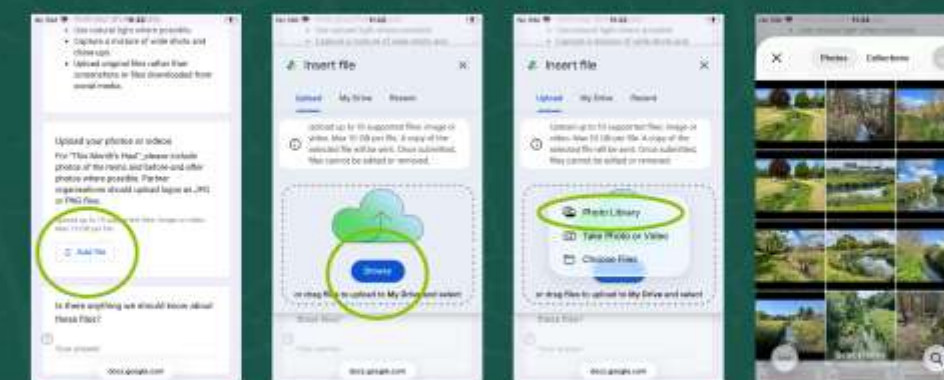
4. How to share

Steps to uploading images & videos

Android



iPhone





Thank you



Group Photo & Lunch