



Wildlife Disease & Contaminant Monitoring & Surveillance Network

WILDCOMS newsletter, Issue 36: Autumn 2025 www.wildcoms.org.uk

The WILDCOMS newsletter reports recent newsworthy items, publications from member partners and items of interest about wildlife ecology from the UK and overseas. WILDCOMS is funded by NERC UKRI and delivered under the National Capability Programme.

Spotlight on a new ecological health measurement by biodiversity monitoring

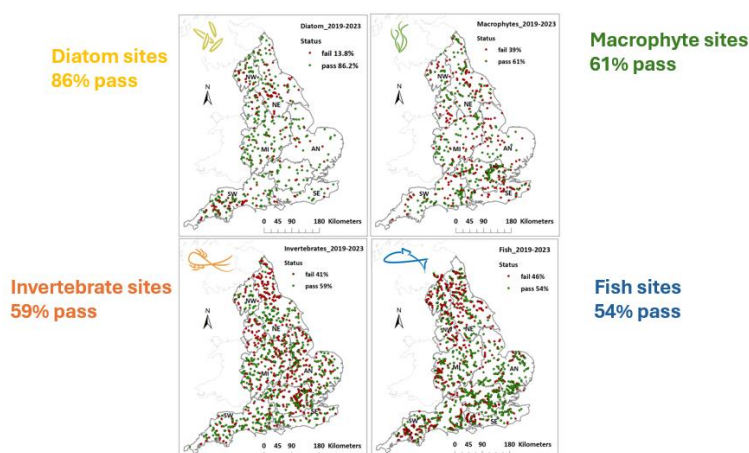
Surface water biodiversity audit: an alternative to the WFD Ecological Status classification

A review of the water quality assessment of the Water Framework Directive (WFD) has been carried out by a team including members of the UKCEH Fish Archive. The review identified several deficiencies embedded in the Ecological Status currently conducted by the WFD and proposed an alternative method based on the biodiversity monitoring data to measure water health: **surface water biodiversity audit**.

Under the 'one out, all out' approach by the WFD, a waterbody is awarded 'good ecological status' only if all the criteria are satisfied for each element, such as a chemical concentration. Only 14% of UK rivers have achieved good ecological status since 2009 according to the WFD, although improvements in freshwater biodiversity have been reported by DEFRA (Department for Environment, Food & Rural Affairs). Given such a discrepancy, an alternative monitoring standard has been offered.

The new approach measures improvements in freshwater biodiversity, based on Environment Agency monitoring data of diatoms, macrophytes, invertebrates and fish, which could be considered as the outcome of all pressures on the natural environment. The biodiversity audit would also be supported by statistical analysis that enables the identification of the environmental elements suppressing biodiversity.

Professor Andrew Johnson, who led the review, said: *"The ecological health of England rivers is generally much better than it was in the 1980s. While it is difficult to make like-for-like comparisons, **over 54% of rivers would achieve at least good ecological status under the biodiversity audit, compared with 14%.** The disconnect between the scientific evidence and the output of the ecological status brings into question the value of the whole WFD process."*



The authors of the review point out that their recommendations would not require any radical changes to the current monitoring arrangements. Instead, it would be a change in focus to reporting on biodiversity as the endpoint and the introduction of modern statistical methods to establish what really holds back further improvements. The [Cunliffe report](#), an independent Water Commission review of the water sector, also recommended the review's recommendations and **the new approach to be considered by the UK Government.**

Above: Results from a trial run of a simplified version of the surface water biodiversity audit representing the proportion of sites where richness is equal to or exceed the reference richness.

New WILDCOMS partner



WILD ANIMAL HEALTH

Wild Animal Health was launched as a consultancy in October 2025 and will be supporting the health of free-living wild animals in conservation interventions.

Wild Animal Health has expertise in disease risk analysis, disease risk management, disease surveillance, the planning, implementation and evaluation of interventions, and statistical analysis, as well as specialist experience in monitoring chemicals in wildlife and associated environmental samples. Their experience in monitoring includes legacy and persistent pollutants as well as chemicals of emerging concern, such as PFAS, personal care products and pharmaceuticals. **Dr Tony Sainsbury, Dr Chris Michaels and Dr Emmelianna Kumar have joined to form this new endeavour.**

Right: Oral cavity examination of a red kite



Above: Dr Tony Sainsbury



Above: Dr Chris Michaels



Above: Dr Emmelianna Kumar



Above: Pathological examination of a pine marten

There are risks from disease in interventions such as reintroduction and re-stocking programmes, and **Wild Animal Health will assess these risks prior to intervention, manage the risks during intervention and monitor the health of wild animal post-intervention, for example post-release.** Disease threats to wild animals following intervention include diseases associated with environmental contaminants, which may exacerbate the inherent stresses of relocation through direct toxicities, or by impairing immune and physiological function, reducing the ability of wild animals to thrive post-release. Well-known threats of this nature include lead poisoning and secondary anticoagulant rodenticide poisoning, but sub-lethal exposure to environmental contaminants can also influence behaviour, reproduction and long-term health.

Wild Animal Health will contribute to long-term contaminant monitoring programmes by collecting samples from wild animals during post-release health monitoring and interpreting data to understand exposure pathways and population-level implications.

Wild Animal Health has the technical and resource capability to carry out disease risk analysis techniques adapted for free-living wild animals, to monitor health through clinical and pathological examinations, implement complex disease risk management (such as quarantine, biosecurity and preventive medicine programmes), analyse the results of translocation and to carry out detailed post-release surveillance techniques. **Its chemical monitoring and ecotoxicology expertise allows contaminant assessments to be integrated alongside infectious disease considerations, supporting a holistic understanding of risks from disease to wild animal populations.**

For further details please see their [website](#).



Above: Clinical examination of a pool frog

Zoological Society of London (ZSL)

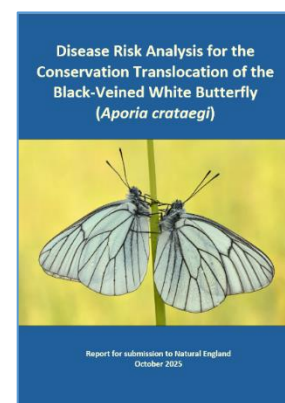
Over the last few months, [the disease risk analysis and health surveillance \(DRAHS\) team](#) at ZSL has undergone some **significant changes**. Two groups within the Institute of Zoology (IoZ), DRAHS and Decision Support Hub for Species Recovery, supported by ZSL's Wildlife Health Services, have combined to form one integrated team focused on improving practice and accelerating the delivery of better conservation translocation outcomes. **This new team is co-led by Professor John Ewen (IoZ) and Dr Amanda Guthrie (ZSL Wildlife Health Services)** following the departure of Dr. Tony Sainsbury from ZSL.



They offer decision support and risk assessment for all components of conservation translocation and broader species recovery planning. For disease risk analysis, they have developed a streamlined framework that integrates risk assessment, risk management, and post-release monitoring within an adaptive management approach. Their science-led model emphasises better practice from the fields of reintroduction and population biology, decision science and wildlife health, with a species-focused delivery that will help achieve recovery for those species and provide applied scientific outputs to continue improving practice. Their new team officially started in October, and they have completed their first DRA using the new approach supporting planning for black-veined white butterfly reintroductions to England.

The services they can provide are:

- Decision support & species recovery planning
- Adaptive management
- Disease risk analysis including updated approach applying advanced decision analytic tools
- Wildlife disease diagnostics including increased in-house capacity for diagnostic tests, a dedicated board-certified wildlife pathologist, ecotoxicology and chemical monitoring
- Species prioritisations
- Conservation translocation guidance



The team is currently being brought together under a new group name and a new website. As this transition progresses, the team will share further updates and look forward to continued collaboration with the WILDCOMS partners. In the meantime, if you have any questions or would like to collaborate on a project, please feel free to get in touch with us at DRAHS@zsl.org or Georgina.gerard@ioz.ac.uk.

Garden Wildlife Health (GWH)

[Garden Wildlife Health \(GWH\)](#) is a collaborative project between the Zoological Society of London, the British Trust for Ornithology, Froglife, and the Royal Society for the Protection of Birds, which aims to monitor the health of, and identify disease threats to, British wildlife. GWH focuses on garden birds, amphibians, reptiles, and hedgehogs, counting on the help of the public to submit reports of sick or dead wildlife of these species and to submit specimens for analysis.

The GWH team conducts post-mortem examinations on garden wildlife and routinely collects an archive of samples from each investigation for potential use in the future. Their national archive comprises 10,000s of frozen and fixed tissues, combined with parasite and culture collections, some of which date back to the early 2000s. These samples are often used to support collaborative projects, and the GWH team is interested to hear of research proposals that could facilitate optimal use of this resource in the future.

To report death or illness in garden wildlife, visit their [website](#).



GWH have produced a wealth of advice on creating a healthy environment for your garden. See [Amphibians](#), [Birds](#), [Hedgehogs](#), [Reptiles](#) and [Wildlife friendly gardening](#).

Recent publication news related to the Vector Borne-RADAR project

The [Vector Borne-RADAR project](#) is a UKRI-funded surveillance project delivered in partnership between the Animal & Plant Health Agency, British Trust for Ornithology, UK Health Security Agency and the Zoological Society of London, launched based on a recent detection of Usutu virus in UK wild animals by scientists including researchers from the GWH (for details of the project, see the [WILDCOMS Newsletter issue 35, Spring 2025](#)). Although they



are not from the GWH project, **the VB-RADAR project has recently published two papers related to wildlife health:**

Bruce et al., 2025. Detection of West Nile virus via retrospective mosquito arbovirus surveillance, United Kingdom. Euro Surveillance, 30(28), 2500401.

Bruce et al. (2025) reports the detection of West Nile virus (WNV) RNA fragments in two pools of female inland floodwater mosquitoes, *Aedes vexans*, collected in Nottinghamshire, England, in 2023. Although the exact origin of this virus and its potential for viral transmission remain unclear, **this finding indicates a historical presence of WNV in the United Kingdom.**

Schilling et al., 2025. Vertical transmission in field-caught mosquitoes identifies a mechanism for the establishment of Usutu virus in a temperate country. Scientific Report, 15(1), 25252.

Usutu virus (USUV) is an emerging zoonotic mosquito-borne flavivirus in the United Kingdom (UK). The VB-RADAR project has detected USUV in recent years (2020-2025), indicating its overwintering in the UK. However, the mechanism by which USUV has persisted through temperate winters was unclear. The study by **Schilling et al. (2025)** provided **evidence of vertical transmission of this virus in its arthropod vector**, the common house mosquito *Culex pipiens* from field caught larvae which were reared to adults. **Vertical transmission could be considered as one of the viable mechanisms for its persistence in temperate areas.**

Cardiff Otter Project



[The Otter Project](#) is a UK national scheme collecting otters found dead in England, Scotland, and Wales to investigate contaminants, disease, and population biology. They collaborate with researchers from other institutions and disciplines to maximise the usage of the otter archive. They are keen to collaborate, sharing data and samples and also encourage potential postgraduate researchers to approach them with research ideas.

Please see more information on the [Otter Project website](#).

Return to post-mortems

After a long pause in otter post-mortem examinations due to Highly Pathogenic Avian Influenza (HPAI), **the Otter Project has recently resumed their routine lab work activities and have conducted 36 post-mortems since mid-September.**

Welcoming new staff



Above Manus Leidi

Manus Leidi has recently joined the Otter Project as a **senior technician for a project investigating the population genomics of coastal otters in Wales**. He will be carrying out the laboratory work for the project, running bioinformatics analyses, and assisting with the write up of the report.

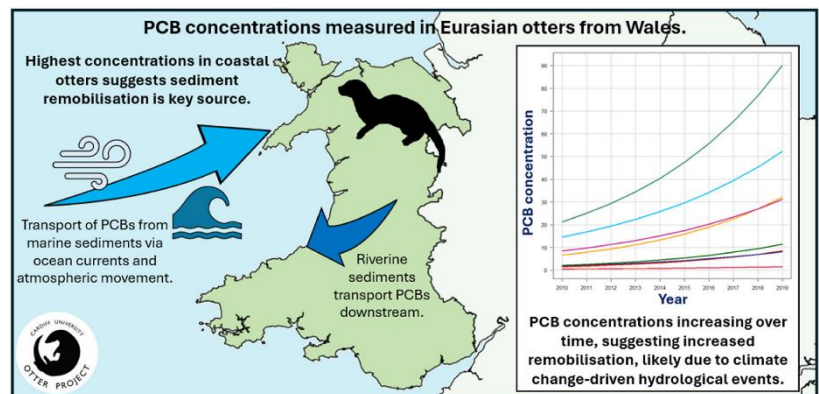
Since September, **the Otter Project has also been joined by three new undergraduate students (Sophie, Sorrel, and Sandy)** for their professional training year at the Otter Project. Over the course of the next academic year, they will be involved in all aspects of the work, including conducting the weekly post-mortem examinations, liaising with the collection network, and responding to data requests.

Otters reveal rising levels of banned PCBs in Wales

Their latest research, O'Rourke et al. (2026) conducted in collaboration with Natural Resources Wales, has revealed that **levels of polychlorinated biphenyls (PCBs) – toxic industrial chemicals banned over 40 years ago – are once again increasing in otters from Wales.**

PCBs were once widely used in electrical equipment, paints, and plastics due to their stability and heat resistance. Although banned in the 1980s, their environmental persistence means they continue to accumulate in wildlife, biomagnification leads to high concentrations in top predators.

Analysing liver samples from otters collected across Wales between 2010 and 2019, **the authors of the study detected PCBs in every individual, with 16% exceeding a known toxic threshold that can impair reproduction.** While PCB concentrations in water and fish are often too low to detect – and fall within current quality standards under the Water Framework Directive – their research adds to growing evidence that **PCBs are still accumulating to harmful levels in top predators through the food chain.** These results show that current water quality standards may not fully protect wildlife at the top of the food web. Continued monitoring and stronger international action are urgently needed to manage legacy pollutants and protect the health of our rivers.



Above: Emily presenting PFAS research at the 70th annual Mammal Society Conference, Wales, UK

Their earlier research, Kean et al. (2021), found PCB levels declined between 1992 and 2009, but the new data show **concentrations have been rising again since 2010.** Higher concentrations were detected in otters from coastal and low-lying areas, suggesting that PCBs stored in river and coastal sediments are being remobilised. During their period of widespread use in the 1950s and 60s, PCBs accumulated in river and marine sediments, and these sediments are now releasing the chemicals back into the environment. Climate change, through more frequent storm events, flooding, and erosion, is likely accelerating this process. Managing contaminated sediments and addressing the impacts of climate change are critical for protecting river ecosystems.

This study highlights the value of otters as sentinels of environmental health. Through the Otter Project's archive – holding samples from more than 4,500 otters found dead across Britain since 1992 – the Otter Project can track long-term changes in pollution and identify emerging chemical threats before they cause lasting harm.

Exploring Biosciences engagement event



Above: In-person post-mortem of an otter in a lecture theatre

Each year, Cardiff University runs an 'Exploring Biosciences' activity day for the undergraduate students to raise awareness of the research being carried out within the School of Biosciences. The Otter Project was invited to carry out **an in-person post-mortem in one of the lecture theatres – a change of scenery from their usual lab room.** The post-mortem was led by Principal Investigator of the Otter Project, Dr Elizabeth Chadwick, and assisted by Sophie and Sandy with the students learning about their work and asking questions throughout. They also ran a very rainy walk along their local River Taff to look for otter spraint. Since the event, they have had an influx of student volunteers wanting to assist with post-mortems and get involved with the Otter Project research group.

Conferences

Over the summer, PhD student Holly attended [the SETAC Young Environmental Scientists \(YES\) Meeting](#) in York, where she presented her research on lead contamination in Eurasian otters and Common buzzards.

The conference brought together students and early career scientists from across Europe to share ideas and discuss the latest developments in environmental toxicology and chemistry. Holly's presentation highlighted how wildlife can act as sentinels of environmental toxicology with her work comparing lead exposure in two top predators and providing important insights into chemical pathways.

Right: Holly presenting her research on lead contamination in Eurasian otters and Common buzzards at the SETAC Young Environmental Scientists (YES) Meeting in York



GB Wildlife Health Partnership

The GB Wildlife Health Partnership is made up of the following organisations: Animal and Plant Health Agency (APHA), Scotland's Rural College (SRUC), Institute of Zoology (IoZ), National Wildlife Management Centre of APHA (formerly part of FERA), The Centre for Environment, Fisheries and Aquaculture Science (CEFAS), The Wildfowl and Wetlands Trust (WWT), Natural England (NE), Forestry England (FE) and Veterinary Medicines Directorate. Input is provided from policy customers: Defra Animal Health and Exotic Disease Policy, Defra Biodiversity, Scottish Government and Welsh Government.

The GB Wildlife Health Partnership publishes reports. The latest report, 2024 Annual GB wildlife surveillance and emerging threats report, is accessible on the [GOV.UK website](#).

Predatory Bird Monitoring Scheme (PBMS)



Predatory Bird
Monitoring Scheme

The [Predatory Bird Monitoring Scheme \(PBMS\)](#) is a long-term monitoring scheme designed to measure various chemical contaminants in predatory bird tissues that are supported by the public for bird carcass submission.

Recent publications from the PBMS

Ozaki et al., 2025a. Second Generation Anticoagulant Rodenticides (SGARs) in Mammals and Predatory Birds.

This report reviews **SGAR residues in various mammals and predatory birds collected in Great Britain (GB), United Kingdom (UK)**. The detection and magnitude of liver SGAR residues were compared across different species and diets, and the temporal changes in SGAR exposure were shown.

Ozaki et al., 2025b. Metals and their relationship to measures of physiological stress in common buzzards (*Buteo buteo*) and sparrowhawks (*Accipiter nisus*).

This report demonstrates **the variations in the accumulation of metals in the liver of these two predatory bird species from GB**. The report also focuses **on the relationship between liver metal concentrations and the bird health status** and provides **some recommendations for [H4 indicator dashboard](#)** that tracks changes in UK wildlife exposure to environmental chemicals over time.

PBMS data presented at international and national conferences

Data on lead (Pb) concentrations in UK common buzzards (*Buteo buteo*), generated by PBMS, was presented as part of a comparative study for wildlife Pb exposure at the European Conference for the Society of Environmental Toxicology and Chemistry (SETAC) and the annual conference of [the ECORISC PhD programme](#) by Holly Hulme (Cardiff University). For details, see also the above news.

Wildlife Incident Investigation Scheme (WIIS)

The WIIS makes enquiries into the death or illness of wildlife, pets and beneficial invertebrates that may have resulted from pesticide poisoning. The scheme has two objectives:



1. To provide information to the regulator on hazards to wildlife and companion animals (usually cats and dogs) and beneficial invertebrates (honeybees, bumble bees and earthworms) from pesticide use;
2. To enforce the correct use of pesticides, identifying and penalising those who deliberately or recklessly misuse and abuse pesticides.

The WIIS relies on members of the public and other interested organisations to find and report suspicious incidents that usually involve the death of one or more animals. **Anyone using anticoagulant rodenticides should follow [the Campaign for Responsible Rodenticide Use \(CRRU\) Code of Best Practice](#)**. There is a Freephone number (0800 321600) to report suspicious incidents to WIIS. Anyone who has information relating to bird of prey persecution should report it to their local police force by calling 101, or to Crimestoppers anonymously on 0800 555111.

WIIS Quarterly Reports

Quarterly data for WIIS is available on the HSE pesticides website [WIIS Quarterly Reports - HSE](#) and this currently includes investigations up to January 2025. The laboratory analysis of samples for incidents in England is conducted at [Fera Science](#). The lab routinely analyses samples from a wide range of species of chemicals such as rodenticides. **In 2025, Fera Science submitted rodenticide data on six different species (otters, peregrine falcons, sparrowhawks, buzzards, hedgehogs and foxes)** from the English WIIS as part of a wider group led by SASA (Science and Advice for Scottish Agriculture) to assess UK-wide trends in rodenticides across the previous rodenticide Stewardship Scheme.

WIIS-Scotland



The results from [WIIS-Scotland](#) are published quarterly. **The results for incidents from 2024** can now be viewed on the [WIIS Quarterly Reports webpage](#). **The results for incidents from the first half of 2025** are also available on the [Reports website](#). SASA staff continue to survey rodenticide usage on behalf of the Scottish Government.

Collaboration with researchers from Malasia



The WIIS Scotland team recently hosted scientists from the Department of Wildlife and National Parks of Peninsular Malaysia ([PERHILITAN](#)) who are working towards expanding their National Wildlife Forensic Laboratory to include chemical analysis as well as DNA identification. This was an exciting opportunity for the WIIS Chemistry team to provide training and share expertise, and the week-long visit was a huge success.

Left: Tika and Aina from PERHILITAN visiting the laboratory at SASA

Megan Galloway: New Senior Analyst at SASA



Above: Megan Galloway

Megan Galloway, who worked previously in the WIIS team at SASA as Lead Chemical Analyst, succeeded the role of Senior Analyst and WIIS Programme Manager following the retirement of Elizabeth Sharp (for details of these papers, see the WILDCOMS Newsletter issue 35, spring 2025). Megan had 10 years of professional experience in the water industry across various scientific roles at Scottish Water, both lab-based and as a process scientist for clean water treatment. Before joining SASA in 2021. After 4 years of career as an Analyst.

Megan is now excited to take on the challenge of this new role and keen to broaden professional experience and opportunities to be involved in collaborating with other WILDCOMS partners. **The WILDCOMS team welcomes Megan.**

Recent WILDCOMS and featured publications

- Animal and Plant Health Agency, 2025.** [2024 Annual GB wildlife surveillance and emerging threats report](#). Animal & Plant Health Agency report.
- Beckmann, K.M. et al., 2025.** [Wildlife health risk analysis for conservation translocation: A scalable approach illustrated for wader population restoration](#). Conservation Science and Practice 7(9), e70131.
- Bruce, R.C. et al., 2025.** [Detection of West Nile virus via retrospective mosquito arbovirus surveillance, United Kingdom, 2025](#). Euro Surveillance, 30(28), 2500401.
- Choi, S.Y. et al., 2025.** [Effect of different infrared basking lamps on the heating effectiveness and desiccation of gelatine models: Implications for zoo animal husbandry](#). Journal of Zoo and Aquarium Research, 13(3), 164-172.
- Curteis, T. et al., 2025.** [Ranking of treatments in network meta-analysis: incorporating minimally important differences](#). BMC Medical Research Methodology, 25:67.
- Funk, W.S. et al., 2025.** [Identification of *Porrocaecum moravecii* in red kites in England and Wales, a species of conservation concern](#). Parasitology Research, 124:61
- Maeda-Obregon, A., et al., 2025.** [Persisting at the edge of ecological collapse: the impact of urbanization on fish and amphibian communities from Lake Xochimilco](#). Environmental DNA, 7(4), e70147.
- Michaels, C.J. & Díaz, J.A.H., 2025.** [Initial field data for the Critically Endangered Alchichica salamander *Ambystoma taylori* from Lago Alchichica, Mexico](#). The Herpetological Bulletin, 171, 12–19.
- O'Rourke, E. et al., 2026.** [Increasing concentrations of polychlorinated biphenyls \(PCBs\) in Eurasian otters \(*Lutra lutra*\) from Wales suggest remobilisation from sediment sinks](#). Environmental Pollution, 388, 127354
- Ozaki, S. et al., 2025a.** [Second Generation Anticoagulant Rodenticides \(SGARs\) in Mammals and Predatory Birds - An interspecies comparison](#). UKCEH contract report to Natural England. UK Centre for Ecology & Hydrology, Lancaster, UK.
- Ozaki, S. et al., 2025b.** [Metals and their relationship to measures of physiological stress in common buzzards \(*Buteo buteo*\) and sparrowhawks \(*Accipiter nisus*\)](#). UKCEH contract report to Natural England. UK Centre for Ecology & Hydrology, Lancaster, UK.
- Schilling M. et al., 2025.** [Vertical transmission in field-caught mosquitoes identifies a mechanism for the establishment of Usutu virus in a temperate country](#). Scientific Report, 15(1), 25252

New vacancies

Undergraduate placement year opportunity (Otter Project; Cardiff university)

There are **multiple vacancies** available for the professional training year (PTY) placement for the **2026-2027 academic year**. This opportunity is **primarily intended for undergraduate students undertaking their third-year PTY**, but the **Otter Project welcomes applications from anyone with an interest in the role**. No prior experience is required. The placement provides hands-on experience in research, data handling, spatial mapping, post-mortem techniques, and public engagement. For full details, please see the advert below. Please forward this advert on to any students or university lecturers who may be interested.

Professional Training Year Placement 2026-27

CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

CARDIFF UNIVERSITY
OTTER PROJECT

We have vacancies for a one year placement from 2025-26, offering the successful candidates a wide range of experience in research and project management.

Placements are usually for one year, typically starting in July to September (this is flexible and can be discussed). They are designed for undergraduate students undertaking a professional training year (PTY), although we will consider applications from anyone interested. The placement is unpaid, although as we are a part of a Higher Education (HE) institute, students will be entitled to their full student loan amount.

About the project:
The Otter Project is a nationwide scheme that has been collecting otters found dead for post-mortem examination for 30 years. The otter is a European protected species, and acts as a sentinel of freshwater health. Data and samples are used in a wide range of research, while information on carcass locations is used to guide conservation.



Freddie Montague-Dennis

SWIPE



About the placement:
Successful candidates will be involved in all aspects of this project, including:

- **Research:** Core work includes conducting weekly post-mortem examinations and sample archiving with opportunities to assist our team of PhD students using a variety of methods including field surveys, molecular ecology and microscopy. In addition, the successful applicants will be able to select and undertake an individual research project, chosen in line with their own interests.
- **Data analysis:** Successful applicants will be trained in database management, digital mapping (ArcMap GIS and QGIS) and statistical modelling using R.
- **Professional networking:** Liaising with conservation organisations and government agencies (e.g. Wildlife Trusts, Environment Agency) to arrange carcass collections.
- **Public engagement and science communication:** Maintaining social networking activities, and helping with engagement activities, such as science fairs, open days and school visits. Successful applicants will also monitor the project's emails and phone line, helping members of the public with queries.

Applications:
Send your **CV and cover letter** to Dr Elizabeth Chadwick and Yaz Russell at RussellY2@cardiff.ac.uk with 'placement year' in the subject header.
Deadline: **1st December 2025**.
More information on the project is available at www.cardiff.ac.uk/otter-project or email us at otters@cardiff.ac.uk to hear from our current PTY students



Contact us

To see a particular topic in the WILDCOMS newsletter, contact us about WILDCOMS related matters or subscribe/unsubscribe from our mailing list please email wildcoms@ceh.ac.uk.

For detailed information about WILDCOMS and the schemes involved, navigate to www.wildcoms.org.uk.

The UKCEH [Privacy policy](#) sets out the basis on which any personal data we collect from you, or that you provide to us, will be processed by us.



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