

Why otters?


- Otters are top of the freshwater food chain in the UK, and act as an environmental 'sentinel' – i.e. they are an indicator of threats (such as pollutants, disease and parasites) that may affect the health of wildlife, domestic animals / livestock, and humans.
- Otters are a good 'umbrella species' – protecting otters and their habitat offers protection to a wide range of other species that might otherwise be overlooked.
- Otters are protected under UK and EU legislation, and are currently recovering from near extinction across many parts of their range. They are still vulnerable to threats from emerging pollutants and disease, declining fish stocks, road traffic accidents and persecution.



Report dead otters!

 England
03708 506 506
(Environment Agency)

 Wales
0800 807 060
(Natural Resources Wales)

 Scotland
01471 822 847
(International Otter Survival Fund)

 @Otter_Project

 Cardiff University
Otter Project



*A National Environmental
Monitoring Programme, since
1994*

*'Using otters as sentinels for
environmental health'*

www.cardiff.ac.uk/otter-project
Get involved / donate!

*Other schemes collecting data / samples from wild animals found dead can be found at www.projectsplatter.co.uk



Cardiff University is a registered
charity No. 1136855

Core activities

We collect over 200 otters each year, found dead across England, Wales and Scotland. To do this, we rely on partnerships with an extensive network of environmental organisations and individuals, who report and send in otters.

We carry out a detailed post mortem examination, recording key information like sex, age, and reproductive status, as well as any abnormalities, while collecting a wide range of samples for our archive. **Importantly, our archive allows for retrospective analysis, as new questions are asked, methods developed or as funds become available.**

Samples and data are used in research, including monitoring of environmental pollutants, disease, and otter biology. We know where otters were collected and when, and so can examine spatial variation and trends over time (e.g. in pollutants or disease), while basic biological information (such as sex and age) help us understand variation within populations.

For every otter received, a report is sent to the reporting member of the public, and to local environmental organisations, providing a first alert of any sign of ill health in the population, as well as highlighting problem areas of wildlife mortality on roads.

The large sample size, extensive geographic coverage, and twenty year time-series make the Otter Project an increasingly valuable resource for environmental monitoring.

Otters as sentinels

Testing otter tissues can provide a sensitive warning of pollutants or disease in the environment.

Pollution: Our drinking water comes from reservoirs, which are fed by the freshwater streams and rivers in which the otters live. By **measuring pollutants in otter tissues**, we can highlight potential risks to human and wildlife health, and identify where legislation / control has been successful, or is still needed.

We have identified toxic fire retardant chemicals in UK freshwaters. We have shown that legislation to ban or reduce pollutants can work - PCBs (polychlorinated biphenyls), some organochlorine pesticides, and lead (from leaded petrol) are commonly found, but concentrations are falling. Over the next few years we will focus on 'emerging' contaminants such as pharmaceuticals, which are recognised as one of the top environmental issues of global concern.



Parasites: Otters are opportunistic predators, and eat a diverse diet – which means they are exposed to a range of generalist parasites.

By **screening for parasites**, we gain an understanding of cryptic systems that are otherwise very difficult to study. We have shown that worms in the gall bladder, *Toxoplasma gondii*, and hedgehog ticks are common in otters. Understanding patterns in their distribution helps us understand potential health risks to other wild and domestic animals, as well as humans.

Conservation

Effective conservation relies on a clear understanding of populations.

Our research answers basic questions about population structure, diet and reproduction, while also tackling more novel questions such as how otters use scent to communicate, and how population genetics vary across the UK.

In more applied conservation, work on mortality 'hotspots' is used to guide mitigation (such as wildlife underpasses) on roads and so reduce future mortalities.

Outreach

Otters are appealing, and have proven an effective means of communicating the importance of wildlife conservation, and the threats of chemical pollution.

'Colin' our custom made de-constructable otter has proved a huge hit with children and adults alike. We have developed curriculum linked activities for schools (available on our website).

