



Wildlife Disease & Contaminant Monitoring & Surveillance Network

WILDCOMS newsletter number 17: Spring 2017 [www.wildcoms.org.uk](http://www.wildcoms.org.uk)

**Editorial note.** The WILDCOMS newsletters have changed format and, rather than focus on particular issues or contaminants, will largely report recent newsworthy items and publications from its member partners

## Scheme news

### The Scottish Raptor Health Study

In collaboration with a wide array of institutions, partners and citizens science support, the Scottish Raptor Health Study has received over 50 birds in its first year. Post mortem examinations on all birds have unearthed unusual bacteria and parasites, injuries attributable to human infrastructure as well as mortality through competition and predation. We have started the analysis of chemicals in the tissues of these birds screening for heavy metals, rodenticides, poisons and a large array of pesticides and drugs in collaboration with Japanese, Swedish and British institutions. We currently preparing for a busy field season to take blood samples from golden eagle chicks across Scotland to screen for chemicals, as well as make health assessments on this years' brood.



**The Wildlife Incident Investigation Scheme** reports results of incidents involving pesticides in a searchable spreadsheet which is published quarterly. All reported incidents identify whether pesticides found in an incident are the principle cause of the incident, or present at background or trace levels only. Please see [WIIS Quarterly Reports](#) for full details.

### The Predatory Bird Monitoring Scheme.

- The Natural England Chief Scientist Report 2015-16 (<https://www.gov.uk/government/publications/natural-england-chief-scientists-report-2015-to-2016>) featured an article on the PBMS in its "Section 2: Monitoring the Natural World" on pages 18-20 and reflected the close link that the scheme has with regulators in Natural England. ([https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/577216/2\\_NE\\_Chief\\_Scientist\\_Report\\_2015-16\\_Monitoring.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/577216/2_NE_Chief_Scientist_Report_2015-16_Monitoring.pdf).)
- Lee Walker, the co-ordinator for the PBMS was invited to present recent scheme results at the annual Conference of the [Northern Ireland Raptor Study Group](#) held at Castlewellan Forest Park, County Down on Saturday 25th March 2017. This, together with other new contacts, is leading to an increase in the number of birds submitted to the PBMS from Northern Ireland.
- The Centre for Ecology & Hydrology has generated a new case study document on the work of the PBMS. This, together with other relevant material, can be viewed and downloaded at <http://www.ceh.ac.uk/case-studies/case-study-predatory-bird-monitoring-scheme> and also downloaded as a [pdf](#).
- The PBMS has been liaising with Defra in early 2017 over how the scheme can contribute to the surveillance effort for avian influenza (AI). We are now swabbing all carcass submissions as they arrive and will be sending the swabs into Defra for AI screening.

**Case Study - Predatory Bird Monitoring Scheme**

Detecting threats to the environment and human health

Home

**The Challenge:**

Chemicals are essential for people's health, nutrition and well-being. However they have hazardous properties and can also pose a risk to the environment, ecosystem services and human health. It is essential to understand the risks from pollutants if we are to both benefit from the use of chemicals and also protect the environment.

Wildlife can act as sentinels of the health of our environment. Pollutants that accumulate in 'sentinel' species are very likely to accumulate and affect other species as well. Measuring contaminant levels in species such as birds of prey provides us with an early warning of potential harm to the birds themselves, to other wildlife and potentially to people.

**The Research:**

The Centre for Ecology & Hydrology (CEH) runs the Predatory Bird Monitoring Scheme (PBMS), working with regulators and industry to try to minimise unintentional risk to wildlife from pollutants. Operating for over 50 years, the PBMS



## Disease Risk Analysis and Health Surveillance Programme

A special issue of the journal *EcoHealth* on Health and Disease in Translocated Animals is now available (Volume 14, Issue 1 Supplement), which stemmed from a Symposium held at Zoological Society of London (ZSL) in 2015 jointly organised by Natural England, ZSL and RSPB <http://link.springer.com/journal/10393/14/1/suppl/page/1>

An endangered hen harrier, hatched in 2016, was found dead in Northumberland in January 2017 and examined by [DRAHS](#). The principal findings were a stomatitis and enteritis (inflammatory disease of the oral cavity and intestine respectively) in association with the finding of *Capillaria* spp nematodes, plus an hypertrophied adrenal gland suggesting the bird had been in chronic stress. Two lead shot pellets were detected in the carcass and the wounds linked with these had healed some time previously.



Photo: a radiograph of the head of the hen harrier showing a lead shot pellet in the subcutaneous tissues below the mandible (courtesy of Jenny Jaffe)

Two red kites (*Milvus milvus*) submitted for post-mortem examination in 2016, one from Northamptonshire and another from Wiltshire, had widespread haemorrhages without associated trauma. These signs are consistent with poisoning by second generation anticoagulant rodenticides and exposure to these rodenticides has been regularly detected in red kites in the last ten years.

[DRAHS](#) are currently working on a disease risk analyses for the reintroduction of the chequered skipper (*Carterocephalus palaemon*) and the translocation of natterjack toads (*Bufo calamita*), plus disease risk management of Fisher's estuarine moth (*Gortyna borelii lunata*) translocation and post-release monitoring of short-haired bumblebee (*Bombus subterraneus*), wart-biter cricket (*Decticus Verrucivorus*), pool frog (*Pelophylax lessonae*), red kite (*Milvus milvus*) and hazel dormouse (*Muscardinus avellanaris*).

**Cardiff University Otter Project** is on [Facebook](#) and has an 'Otter Project E-Newsletter' which contains a round-up of the latest project news and findings in the Cardiff otter lab. Follow the link if you wish to subscribe: <http://eepurl.com/crviiT>. It is a great way to keep up to date with how various research projects are progressing.

### Animal and Plant Health Agency (APHA)

Paul Duff, [APHA](#) Veterinary Investigation Officer, volunteered to help [Butterfly Conservation](#) in their project to save the marsh fritillary butterfly in Northern England. The marsh fritillary (*Euphydryas aurinia*) is a medium sized British butterfly that used to be widespread in Britain and Ireland, but is now much more restricted and rare. It has beautifully marked wings with a checker-board pattern of orange and yellow spots. See [APHA blog](#).

## Other news

**Vulture poisoning.** A massive poisoning incident in Bulgaria has dealt a blow to the recovering Balkan griffon vulture population. During March 2017, eight griffon vultures, and other animals (wolves, foxes and other raptors) were found dead by illegally poisoning in Kresna Gorge (Bulgaria). The dead vultures constitute the bulk of the local breeding population. For this and other news please see the [Vulture Conservation Foundation website](#).

## New publications from the WILDCOMS schemes

**Carter et al., 2016.** Health and disease in translocated animals. Editorial. *Ecohealth* 14(1), 5-6

**Duff et al., 2016.** *Klebsiella pneumoniae* of suspected human origin from free-living common seals on the east coast of England <http://veterinaryrecord.bmj.com/content/early/2016/11/29/vr.104018>

**Johnson et al, 2017.** Linking changes in antibiotic effluent concentrations to flow, removal and consumption in four different UK sewage treatment plants over four years. *Environmental Pollution*, 220 (B). 919-926. 10.1016/j.envpol.2016.10.077

**Jepson and Law, 2016.** Persistent pollutants, persistent threats: Polychlorinated biphenyls remain a major threat to marine apex predators. *Science* 352: 1388-1389. doi: 10.1126/science.aaf9075

**Jepson et al., 2016.** PCB pollution still impacts populations of orca and other dolphins in European waters. *Sci. Rep.* 6, 18573. doi: 10.1038/srep18573

**Law and Jepson 2017.** Europe's insufficient pollutant remediation. *Science* 10.1126/science.

**Strong et al., 2017.** Subtle effects of environmental stress observed in the early life stages of the Common frog, *Rana temporaria*. *Scientific Reports* 7:44438. doi:10.1038/srep44438.

<http://www.nature.com/articles/srep44438#supplementary-information>

**Strong et al. 2016.** Infrared spectroscopy detects changes in an amphibian cell line induced by fungicides: comparison of single and mixture effects. *Aquatic Toxicology* 178 8-18 doi:10.1016/j.aquatox.2016.07.005

**Shore et al. 2016.** Second generation anticoagulant rodenticide residues in barn owls 2015. CEH contract report to the Campaign for Responsible Rodenticide Use (CRRU) UK, 17 pp.

<http://pbms.ceh.ac.uk/sites/pbms.ceh.ac.uk/files/stewardship-2015-owls.pdf>

**Walker et al., 2016.** Anticoagulant rodenticides in red kites (*Milvus milvus*) in Britain 2010 to 2015. Centre for Ecology & Hydrology, Lancaster, UK.14 pp.

[http://pbms.ceh.ac.uk/sites/pbms.ceh.ac.uk/files/PBMS\\_Rodenticide\\_Red\\_Kite\\_2016\\_FINAL.pdf](http://pbms.ceh.ac.uk/sites/pbms.ceh.ac.uk/files/PBMS_Rodenticide_Red_Kite_2016_FINAL.pdf)

**Walker et al., 2016.** Mercury (Hg) concentrations in predatory bird livers and eggs as an indicator of changing environmental concentrations. Centre for Ecology & Hydrology, Lancaster, 23pp.

[http://pbms.ceh.ac.uk/sites/pbms.ceh.ac.uk/files/PBMS\\_report\\_mercury\\_liver\\_egg\\_1.pdf](http://pbms.ceh.ac.uk/sites/pbms.ceh.ac.uk/files/PBMS_report_mercury_liver_egg_1.pdf)

**Walker et al., 2016.** The potential for the use of population health indices in the Predatory Bird Monitoring Scheme. Centre for Ecology & Hydrology, Lancaster, UK. 32 pp.

[http://pbms.ceh.ac.uk/sites/pbms.ceh.ac.uk/files/PBMS\\_Health%20Indices\\_Report\\_FINAL.pdf](http://pbms.ceh.ac.uk/sites/pbms.ceh.ac.uk/files/PBMS_Health%20Indices_Report_FINAL.pdf)

**Walker et al., 2016.** Liver concentrations of flame retardants in Eurasian otters (*Lutra lutra*) collected from Scotland between 2013 and 2015. Centre for Ecology & Hydrology, Lancaster, 14pp.

[http://pbms.ceh.ac.uk/sites/pbms.ceh.ac.uk/files/PBMS\\_report\\_PBDEs\\_Scottish\\_Otter\\_2016\\_0.pdf](http://pbms.ceh.ac.uk/sites/pbms.ceh.ac.uk/files/PBMS_report_PBDEs_Scottish_Otter_2016_0.pdf)

## Contact us:

If you would like to see a particular topic in the WILDCOMS newsletter, contact us about other WILDCOMS related matters, or be added to our mailing list please e-mail the WILDCOMS coordinator Jacky Chaplow (<mailto:jgar@ceh.ac.uk>).

For detailed information about WILDCOMS and the schemes involved navigate to [www.wildcoms.org.uk](http://www.wildcoms.org.uk). Please note, we will retain your email address for the duration of the WILDCOMS project but will not share your details.