Wildlife Disease & Contaminant Monitoring & Surveillance Network

WILDCOMS newsletter number 23: Spring 2019 www.wildcoms.org.uk

The WILDCOMS newsletter is produced 3 or 4 times a year and reports recent newsworthy items and publications from member partners

WILDCOMS Scheme news

Garden Wildlife Health

Apparent absence of *Batrachochytrium salamandrivorans* in wild urodeles in the United Kingdom


Great crested newt copyright Matthew Perkins ZSL

Batrachochytrium salamandrivorans (Bsal), a recently discovered chytrid fungus, has caused epidemic mortality of fire salamanders (*Salamandra salamandra*) in mainland Europe since 2010. A recent study published in *Scientific Reports* found 2409 skin swabs, obtained from wild newts from ponds across the United Kingdom in 2011, to be negative by qPCR testing. Modelling of these data suggests that Bsal was absent from, or present at very low levels in, these ponds at the time of sampling. Samples collected at post-mortem examination for surveillance of newt mortality incidents, 2013-2018 inclusive, also tested negative. Since Bsal is known to be widespread amongst captive amphibians in Great Britain, there is an urgent need to raise awareness of the importance of effective biosecurity measures. Also, continued surveillance, by reporting to Garden Wildlife Health, is required to provide an early warning system for Bsal incursion.

Scottish Raptor Health Study

Since our last newsletter, Gaby Peniche has been glued to a computer crunching numbers and interpreting all the information obtained so far from raptor post mortem examinations, live golden eagle chick examinations and toxicology analysis. One small flap for a golden eagle chick, and a giant leap for the species…and Gaby who has finally finished working out reference ranges for Scottish golden eagle chick bloods! Soon to be published and widely accessible to vets, wildlife rehab centres and the Scottish borders golden eagle reinforcement project. This information will help determine if a golden eagle chick is healthy or not when looking at its blood sample.


Jon Brain

Currently, Gaby is working on analysing different golden eagle chicks body measurements to assess if sex can be accurately determined at the time of ringing.

Gaby attended the European Raptor Biomonitoring Facility (ERBFacility) meeting to collaborate together with other 26 countries using raptors to monitor the environment.

For more on the project's work: https://gaming.youtube.com/channel/UCQ3SmbKg8Y8dwSaq4p0JVBw

WIIS-Scotland

The results from WIIS-Scotland are published quarterly. The results for incidents from quarter 3 of 2018 have been added to the SASA website and can be viewed here. The next update, for quarter 4 of 2018, will be published by the end of April 2019.

WIIS-England and Wales

The Wildlife Incident Unit (WIU) at Fera Science Ltd, provide the analytical expertise, interpretation and reports on pesticide poisoning incidents for the Wildlife Incident Investigation Scheme (WIIS) in England and Wales. Historical results for WIIS and those for 2018 can be found on the Health and Safety Executive website here and this has an update now for quarter 3 of 2018.

A 50 Year Review: Wildlife Incident Investigation Scheme and Pesticide Usage Survey data for Seed Treatments and other Solid Formulations is also available here.

The Disease Risk Analysis and Health Surveillance (DRAHS) project

On 13 March Jenny Jaffe represented DRAHS at the Chequered Skipper Steering Group meeting to provide input regarding disease risk management and post-release health surveillance. The second translocations of these locally extinct butterflies, from Belgium to Rockingham Forest, will take place in late May 2019 with a DRAHS representative performing health examinations pre-release.

Inez Januszczak and Jenny Jaffe visited Monkfield Nutrition in Cambridgeshire on 26 March to evaluate disease risks posed by keeping exotic amphibians and reptiles in the same location as insects bred to feed to captive bred amphibians and reptiles. Advice on biosecurity measures to minimise disease risk was provided.

On 29 March Jenny Jaffe and Chris Michaels (ZSL Herpetology) provided training to the member of staff (funded by Amphibian and Reptile Conservation (ARC)) responsible for pool frog head starting* in 2019. She received training on husbandry, management and disease risk management and will use a designated Forestry Commission site to head start spawn from the first release site to further establish a second pool frog population in Norfolk.
*Head starting is the process of rearing spawn to tadpole stage in captivity with subsequent release.

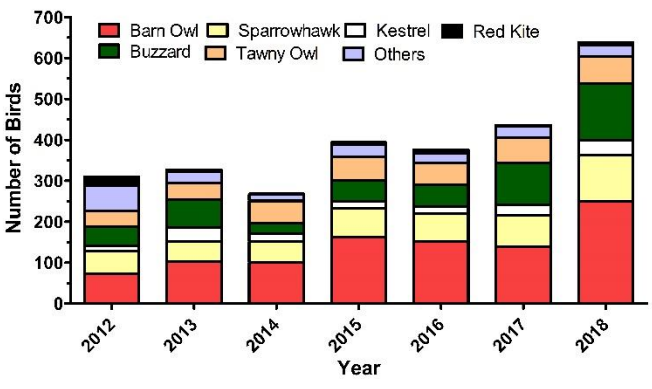
A new cohort of dormice entered quarantine at ZSL on 9 April. After completing quarantine and undergoing health examinations, they will be released in June at a previous release site to help increase genetic diversity in the released population.

Marco Vecchiato, the DRAHS volunteer vet, completed his part-time volunteering for the project in early April, after performing post-mortem examinations on almost twenty red kites. This meant that all the red kite carcases received in 2018 were examined and their samples were sent to PBMS for toxicological analysis.

Jenny Jaffe, the DRAHS wildlife veterinarian from 2015 onwards, will be leaving the project to pursue a PhD in wild chimpanzee health in Ivory Coast. Her successor, starting 6 May, is Dr. Tammy Shadbolt, who recently completed her PhD on Tasmanian devil facial tumour disease.

Predatory Bird Monitoring Scheme (PBMS)

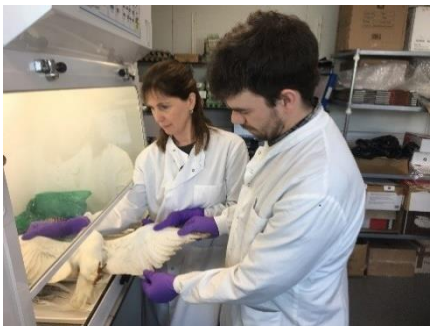
2018 was a bumper year for bird submissions to the PBMS. In total, we received more than 600 carcasses of birds found dead in 2018 (as well as 58 birds from previous years but submitted in 2018). This is almost double the numbers for other years (see graph). We are as yet unclear whether this represents unusually high mortality of birds (particularly barn owls) in 2018, or if the PBMS was particularly successful in reaching more contributors in 2018.



The **European ERBF network** met in Florence in the first week of March to discuss its work to date and approve future work-plans. These include opportunities for visits

between the laboratories of different participants and the initiation of proof of concept monitoring of contaminants in raptors across Europe. Richard Shore from the PBMS leads Working Group 1 of the ERBF and the PBMS is a major collaborator in developing the capability of pan-European monitoring. More about the ERBF https://erbfacility.eu/

Members of the PBMS travelled to Bratislava, Slovakia in January 2019 for a meeting of a recently funded **Horizon 2020 EU project - LIFE APEX**. The aim of LIFE APEX is to improve systematic use of chemical monitoring data from apex predators and prey for protecting human health and the environment. The PBMS is a consortium partner and in addition to providing technical expertise, will provide buzzard liver samples for analysis. The website for the LIFE APEX project has now been launched at https://lifeapex.eu/



Dr Alex Bond, senior curator in charge of birds at the **Natural History Museum**, visited the PBMS team recently - he is pictured here with Elaine. The main purpose of Alex's visit was to explore how the NHM and the PBMS can collaborate more closely, and in particular share material from carcasses that are sent to each organisation. This co-operation will help ensure that the maximum scientific benefit is gained from the collection of raptor and owl carcasses

New paper on detecting pharmaceutical residues in birds. The release of pharmaceuticals into the environment and subsequent uptake in wildlife is a growing area of concern but exposure to pharmaceuticals can be difficult to detect because tissue residues of pharmaceuticals are usually metabolised rapidly. The PBMS team, in collaboration with colleagues at York University, studied how quickly this metabolism may occur and whether exposure can be detected by analysing residues that are fixed and stable in feathers. We used fluoxetine (a widely used anti-depressant) as a model compound and the starling as the model experimental species. The results of the work have been published as an open access paper (see Whitlock et al., 2019)

Cardiff University Otter Project

Recently, the otter project found a bramble encapsulated within the wall of the uterus of an adult female otter. Having looked at over 3,500 otters, they have never seen anything like this before, and would like to hear from anyone with veterinary experience, as to whether this has been seen at all in other animals? See https://www.facebook.com/otterprojectuk/ for more information

Other news

Natural England have recently let a contract to investigate the potential for an integrated post-registration pesticide monitoring scheme for the terrestrial environment in England. This contract is led by Richard Shore from the PBMS and is a joint effort between the PBMS and WIIS teams. It involves looking at the potential for existing surveillance schemes to form part of a wider integrated monitoring scheme and involves the PBMS, WIIS and Wildlife Garden Heath partners from the WILDCOMS network.

Recent publications from the WILDCOMS schemes

Pereira, M.G., Lawlor, A.J., Bertolero, A., Díez, S., Shore, R.F, Lacorte, S. [published on line] 2018. Temporal and spatial distribution of mercury in gulls eggs from the Iberian Peninsula. Archives of Environmental Contamination and Toxicology https://doi.org/10.1007/s00244-018-0584-0

Sainsbury, K.A., Shore, R.F., Schofield, H., Croose, E., Campbell, R.D. and McDonald, R.A. 2019. Recent history, current status, conservation and management of native mammalian carnivore species in Great Britain. https://doi.org/10.1111/mam.12150

Sainsbury, K; McDonald, R.A.; Shore, R.F.; Pereira, M.G.; Sleep, D.; Schofield, H.; Croose, E.; Kitchener, A.C.; Hantke, G. 2019. Secondary exposure to second-generation anticoagulant rodenticides in European polecats (Mustela putorius) in Great Britain 2013 to 2016. NERC Environmental Information Data Centre. https://doi.org/10.5285/2f49911c-192c-4f09-a1a2-72a21f20706c

Taylor M.J., Giela A., Sharp E.A., Senior C.C., Vyas D.S. 2019. A rapid multi-class, multi-residue UHPLC-MS/MS method for the simultaneous determination of anticoagulant rodenticides, pesticides and veterinary medicines in wild animals, pets and livestock. Analytical Methods. 11(8):1087-1101.

Whitlock, S.E., Pereira, M.G., Lane, J. Sleep, D., Shore, R.F., Arnold, K.E. 2019. Detecting fluoxetine and norfluoxetine in wild bird tissues and feathers. Environment International 126 193-201. https://doi.org/10.1016/j.envint.2019.01.083

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