Wildlife Disease & Contaminant Monitoring & Surveillance Network

WILDCOMS newsletter number 21: Summer 2018 www.wildcoms.org.uk

The WILDCOMS newsletters report recent newsworthy items and publications from its member partners

WILDCOMS Scheme news

Scottish Raptor Health Study

Gabriela Peniche at Scottish Raptor Health Study has experienced a successful field season, having sampled golden eagle nestlings in the Western Isles, Central Scotland and even Royal chicks on the Balmoral Estate. Blood samples have been analysed to learn more about the health of the chicks. Parameters such as glucose, cholesterol and urea provide information about the health of an individual and knowledge about what is normal or abnormal. The levels of these parameters for wild animals are often not known, as is the case for wild golden eagle chicks. Determining the 'normal' and 'abnormal' blood parameters is Gabriela's current task. Every blood drop provides valuable information. The blood will be screened for a wide variety of contaminants such as heavy metals, pesticides, and pharmaceuticals. The results together with the health profiles of the chicks will start shinning some light into the health state of Scottish golden eagle chicks.

YouTube link to: more on the golden eagle chick component of the project

Raptor carcasses submitted for examination are also keeping Gabriela busy. She would like to thank all keen collectors for taking the time to submit the birds. Each submission provides information regarding the environmental pressures Scottish raptors are facing.

Wildlife Incident Investigation Scheme (WIIS)

The Wildlife Incident Unit (WIU) at Fera Science Ltd provides 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.

Red kite image by Libby Barnett (FERA)

GB Wildlife Disease Surveillance Partnership

The 2018 GB Wildlife Disease Surveillance Partnership quarterly report has been published: https://www.gov.uk/government/publications/wildlife-disease-surveillance-reports-2018 with links to the 2017, 2016, 2015 and 2014 reports. Previous reports are available on the archived AHVLA area of the National Archive.

The GB Wildlife Disease Surveillance Partnership is made up of the Animal and Plant Health Agency (APHA) (formerly AHVLA), 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) and Forestry Commission England (FCE).

Predatory Bird Monitoring Scheme (PBMS)

The PBMS is involved in a new NERC funded study to investigate the effects of chemicals on wildlife populations. The PBMS team are part of a £2.3 million study that will investigate whether chemicals released to the environment harm wildlife populations. The overall project will investigate potential impacts across a wide range of species and the PBMS will be examining the effects of rodenticides on bird of prey populations. More information: https://www.ceh.ac.uk/news-and-media/news/two-million-pound-grants-study-impact-chemicals-uk-ecosystems

Cardiff University Otter Project

The Otter Project has a new PhD opportunity 'Environmental and anthropogenic drivers of contaminant influx and recirculation within freshwater systems'. The Otter Project is currently looking to recruit a motivated and enthusiastic individual to take up a PhD, exploring contaminants in freshwater systems. The PhD is flexible, and might suit applicants from a range of backgrounds, including ecology, chemistry, landscape ecology, or environmental statistics. See https://www.facebook.com/otterprojectuk/

Disease Risk Analysis and Health Surveillance for Interventions (DRAHS)

The DRAHS webpage now contains revised guidance on how to conduct a disease risk analysis for a conservation translocation. Navigate to https://www.zsl.org/science/research/drahs for more information.

In May, DRAHS wildlife veterinarian Jenny Jaffe took part in the reintroduction of chequered skipper butterflies (*Carterocephalus palaemon*) to Northamptonshire, England, coordinated by Butterfly Conservation, as part of the Back from the Brink Project. Extinct in England since the 1970s due to a reduction of suitable habitat, 42 butterflies were taken from a successful population in Belgium and released into Rockingham Forest, with Jenny on hand to provide expertise on disease risk management for the project. In the preceding years DRAHS had performed the Disease Risk Analysis for the translocations, as well as formulating a protocol for disease risk management and post-release health surveillance. On the day of capture, Jenny checked each butterfly for visible signs of disease before being stored in cool boxes for transport. The butterflies were then driven the 300 miles to the release site. With a lifespan of only 10 to 14 days as butterflies, it was crucial to get them to Northamptonshire as fresh as possible, and before the females laid eggs. The butterflies appeared to thrive in their new home, with several surviving for almost two weeks after translocation. If all went well, the females will have laid lots of eggs. DRAHS will be part of the post-release health surveillance on caterpillars, as well as assisting with more releases over the next two years to build a sustainable population. The main concern for the 2018 releases has been this year's extraordinarily hot and dry summer, which will likely affect the survival of eggs and caterpillars.

As part of the annual dormouse releases, the DRAHS team brought the dormice kept in quarantine at ZSL to this year's release site in Warwickshire in June. The team ensured all the dormouse pairs and trios were placed safely in their soft release cages. The release was accompanied by considerable media attention, including on BBC Springwatch and ITV news.

In June, Jenny Jaffe joined the team responsible for the translocations of wart-biter crickets in East Sussex, representing DRAHS to perform post-release health surveillance. This was the second year that final instars and adults were seen; an indication the habitat is suitable for eggs to be laid and complete the biennial life cycle of the wart-biter cricket. The adults seen this year would be the result of eggs laid by females translocated in 2016. Later in the summer, biologists performed pre-release health examinations before the fourth and final cohort of adults was translocated from the donor site to the destination site.

DRAHS has continued work on sand lizard reintroductions this summer. Other projects included examining the health of free-living reptiles at two release sites, visiting sand lizard breeding facilities to advise on disease risk management, and performing post-mortem examinations on any sand lizards found dead.

At the European Wildlife Disease Association (EWDA) conference in August, the DRAHS team held a half day workshop for a cohort of 13 international wildlife health professionals, to introduce them to the theory and practice of disease risk analysis for conservation translocations. *DRAHS images courtesy of Jenny Jaffe (IoZ)*

Garden Wildlife Health

For advice on creating a healthy environment for garden wildlife (including amphibians, birds, hedgehogs, and reptiles) and tips on wildlife friendly gardening. See https://www.gardenwildlifehealth.org/garden-wildlife/.

Other news

The Morris Animal Foundation (MAF) is now accepting proposals for Established Investigator, First Award, Fellowship Training and Pilot Study grants on topics relevant to wildlife/exotics health. MAF's mission is to bridge science and resources to advance the health of animals. As such, they are dedicated to funding hypothesis-driven research projects of high scientific merit and potential impact. Proposals are due Wednesday, 14th November 2018. To apply: https://www.morrisanimalfoundation.org/apply-grant

Metaldehyde Conference 2018

The Institute for Agri-Food Research and Innovation will host the Metaldehyde Conference 2018 on Thursday, 13th September 2018 in York.

The conference aim is to better understand the multi-faceted challenges to industry, farmers, regulators and the water industry, and to discuss the science required to give better and safer slug control. Attendance at the conference is free, but advance registration is recommended by clicking this link here.

Mesocosm facility

Europe's most advanced E-Flows mesocosm facility at Sand Hutton, York will help introduce safer, fairer and more reliable plant protection products to the market. The E-flows mesocosm provides a test-bed of 60 realistic streams, each up to two metres wide and ten metres long, each having a continuous matched supply of aged fresh water, and all being independent of each other. This provides a facility that is a realistic, but closely controlled, facsimile of edge-of-field surface waters that can be exposed to plant protection products in a real-world scenario to ensure the safety of our aquatic habitats. Learn more here.

New publications from the WILDCOMS schemes

Duff et al., 2018. Wildlife mass mortality events associated with harsh winter weather. Veterinary Record 182, 628-629. http://dx.doi.org/10.1136/vr.k2413

Hartley et al., 2018. Exploring public views on marine litter in Europe: Perceived causes, consequences and pathways to change. Marine Pollution Bulletin 133, 945-955. https://doi.org/10.1016/j.marpolbul.2018.05.061

Johnson et al., 2018. Which commonly monitored chemical contaminant in the Bohai region and the Yangtze and Pearl rivers of China poses the greatest threat to aquatic wildlife? Environmental Toxicology and Chemistry, 37 (4), 1115-1121. https://doi.org/10.1002/etc.4042

Hanamoto et al., 2018. The different fate of antibiotics in the Thames River, UK, and the Katsura River, Japan. Environmental Science and Pollution Research, 25 (2), 1903-1913. https://doi.org/10.1007/s11356-017-0523-z

Su et al., 2018. Multimedia fate and transport simulation of perfluorooctanoic acid/perfluorooctanoate in an urbanizing area. Science of The Total Environment, 643, 90-97. https://doi.org/10.1016/j.scitotenv.2018.06.156

Maes at al., 2018. Below the surface: Twenty-five years of seafloor litter monitoring in coastal seas of North West Europe (1992–2017). https://doi.org/10.1016/j.scitotenv.2018.02.245

Whitlock et al., 2018. Environmentally relevant exposure to an antidepressant alters courtship behaviours in a songbird. Chemosphere, 211. 17-24. https://doi.org/10.1016/j.chemosphere.2018.07.074

Ridding et al., 2018. How do pesticides get into honey? Environmental Science Journal for Teens. http://www.sciencejournalforkids.org/uploads/5/4/2/8/54289603/pesticide_article.pdf

Woodcock et al., 2018. Neonicotinoid residues in UK honey despite European Union moratorium. PLoS ONE, 13 (1). https://doi.org/10.1371/journal.pone.0189681

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