Autumn SPOTLIGHT 2013 www.wildcoms.org.uk

Newsletter: Number 8

Citizen Science

In this edition of the spotlight, various partners in the WILDCOMS network highlight the role that citizen science plays in their monitoring schemes.

Cardiff University Otter Project relies on members of the public to report dead otters (mostly roadkill) in England and Wales. Finders report where and when the body was seen, so that it can be collected. In return, we send a copy of the post mortem report, information about our research, and an annual newsletter. Each otter is marked on our Otter map so that finders can look up 'their' otter and see others nearby. Accurate location data are crucial for our research investigating spatial trends, for example in contaminants or disease, and are also used to help prevent further otter mortalities by guiding mitigation on roads, and the rescue of dependent cubs. The Otter Project has recently linked with Project Splatter, a crowd sourced database that aims to quantify and map all UK wildlife roadkill using real-time reports from citizen scientists posting roadkill sightings on social media.

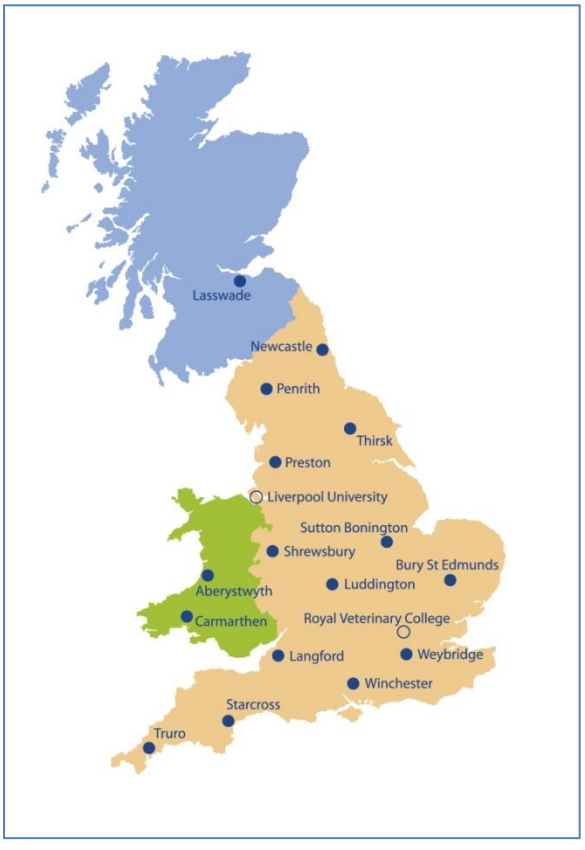
The Predatory Bird Monitoring Scheme (PBMS) relies on the general public, in response to advertising, to send in dead raptors that they find while out and about in the countryside (although if it is suspected that the birds may have been poisoned, the finder is referred on to the WIIS - see below). Overall, members of the public send in some 300 to 400 raptor carcasses each year from around Britain. Trained and licensed ornithologists, mainly amateur, that visit nests as part of their own studies also contribute to the PBMS by sending in between 100 to 200 failed eggs per year. These eggs would otherwise have to be destroyed under the terms of their licence.

The PBMS ensures that submission of samples is as easy and safe as possible for the collector by providing a submission pack that includes the required packaging and postage labels that mean the cost to the contributor is limited to their time. At this stage key information such as date, circumstances and location where the bird was found are recorded. We give detailed feedback to the contributor in the form of post-mortem examination and chemistry reports. These, together with a web and social media

presence, are used to develop a sense of a citizen scientist community with many contributors repeatedly submitting samples to the scheme.

It is difficult to estimate the monetary value of the citizen science input to the PBMS. Active monitoring of nests to collect failed eggs would not be logistically possible for PBMS staff. However, the financial value of public collection of 300-400 carcasses per year can be estimated at between £30,000 and £40,000 per year if it is assumed that each collection typically would involve a 4 hour round trip. Furthermore, the PBMS archive of samples retained from the birds and eggs sent in by the public allows us to carry out unique studies that have significantly increased our understanding of the risk that pollutants pose to raptors and the wider environment (see our publications page here).

Animal Health and Veterinary Laboratories Agency Diseases of Wildlife Scheme (AHVLADoWS) carries out surveillance for disease in all vertebrate wildlife species in England and Wales through its network of 16 veterinary laboratories and two surveillance centres. We rely on members of the public contacting their local AHVLA laboratory for the majority of our samples of wildlife. During the last 10 years this has resulted in 1000s of carcases for post mortem examination. Where appropriate we pass on tissues and information to our partner monitoring schemes in WILDCOMS.



Location of AHVLA Investigation Centres, Laboratories, and Surveillance Centres

Members of the public, conservation organisations, wildlife charities and others are encouraged to telephone local AHVLA laboratories and discuss wildlife disease incidents with a Veterinary Investigation Officer. Cases that are accepted for examination are investigated without charge to the submitter and the submitter receives a report of the findings.

AHVLADoWS also:

- Investigates new and emerging, zoonotic, conservation and livestock related disease
- Delivers consultation to government and reports on all aspects of wildlife disease
- Chairs the GB Wildlife Disease Surveillance Partnership (a group of 8 organisations who work on UK wildlife disease) and produces quarterly disease surveillance reports http://www.defra.gov.uk/ahvla-en/publication/wildlife-survreports/

Contact details for our Investigation Centres and Laboratories can be found on the link: http://www.defra.gov.uk/ahvla-en/about-us/contact-us/investigation-centres-labs/

The **Wildlife Incident Investigation Scheme (WIIS)** makes enquiries into the death or illness of wildlife, pets and beneficial insects that may have resulted from pesticide poisoning. The scheme relies on the public to find and report these incidents to us.

There should be evidence that a pesticide might be involved for an incident to be investigated through the scheme. This evidence might be: recent signs of pesticide applications to crops; the threat of, or actual, damage to gardens or crops by insect or rodent pests; animal rearing activities, such as poultry, livestock, pigeon keeping, or game bird rearing and shooting activities. The appearance of the dead animals might also be suspicious, for example; a dead animal close to a partly eaten carcase or other food item, many dead flies in an area, disturbed ground due to convulsions prior to death, clenched talons, or obvious presence of slug pellets and rodenticides. There might also be several dead animals found within one location, or a number of deaths that occur over a few days. The time of year may also be important, as pesticide use activities are seasonal and linked to farming, or game keeping activities.

The scheme exists to provide information to the regulator on hazards to animals from pesticide use and to identify and penalise those who deliberately, or recklessly, mis-use a pesticide. The incidents where pesticides are found are reported quarterly on this website. The investigation procedures for the scheme are found here.

If you find a suspected incident for us to investigate, please contact 0800-321600. You will be personally informed of the outcome of our investigations, but where pesticides are involved it might take several months before the results can be reported to you.

Wildlife Incident Investigation Scheme (WIIS) Scotland. The scheme, as the name suggests, investigates incidents of suspected poisoning of wild birds and mammals in Scotland but also covers suspected poisoning of livestock, companion animals, beneficial insects and suspicious substances and suspected baits. As such, we rely on members of the public to notify incidents. In a few cases individuals report incidents directly but more frequently incidents are reported via Police Scotland wildlife crime officers, environmental and animal welfare organisations, such as the RSPB and the Scottish SPCA and through private veterinary surgeons. In Scotland, the WIIS Hotline number (Freephone: 0800 321600) is routed to SASA and provides direct access for incident notification. However, to prevent large numbers of dead animals being submitted and analysed, strict criteria are applied to potential incidents prior to acceptance.

The Pesticides & Wildlife Branch at SASA host regular visits from students from Edinburgh University studying a range of environmental science courses and Scotland's Rural College (SRUC) studying horticulture. The visits allow the students to learn about the range of regulatory and scientific functions delivered by SASA on behalf of the Scottish Government and provide SASA with the opportunity to engage with members of the public. A common comment following the visits is "we had no idea that this work was going on right on our doorstep". Hopefully we are working to remedy this.

Scottish Environment Protection Agency (SEPA). The public are very important to SEPA in highlighting any occurring pollution incidents and without public information then many significant pollution events may go by unnoticed. When there is a fish kill in a watercourse SEPA is reliant on speedy awareness of the event. Without public interest in the quality of the environment, a significant pollution even may go unnoticed for some time and so the likelihood of being able to determine the cause of the pollution drops considerably. SEPA recognises and values the public concern for the environment and is therefore committed to an increased requirement for citizen science in its remit.

The **Disease Risk Analysis and Health Surveillance** project has been monitoring the health of declining populations of red squirrels *Sciurus vulgaris* in northern England through scanning disease surveillance for 20 years. It has been reliant on the assistance of members of the public for the submission of red squirrels found dead in woodlands and forests. Since red squirrel populations are at relatively low density and targeted surveillance can be resource intensive, the assistance of the public in detecting diseased red squirrels has been crucial in the monitoring of two diseases, squirrelpox and adenoviral-associated disease.

Squirrelpox is known to have contributed to the decline of red squirrels and there are regular reports of adenoviral-associated disease in remnant red squirrel populations. Indeed, evidence gathered from submitted carcases contributed to our understanding that grey squirrels, *Sciurus carolinensis*, are the reservoir host for squirrelpox virus. Papers on the subject include Martinez-Jimenez *et al*. 2011. Epizootiology and pathological findings associated with a newly described adenovirus in the red squirrel, *Sciurus vulgaris*. Journal of Wildlife Diseases 47 (2): 442-454 and Sainsbury *et al*. 2008. Poxviral disease in red squirrels *Sciurus vulgaris* in the UK: spatial and temporal trends of an emerging threat. Ecohealth 5 (3): 305-316. Image taken by M Cooke.

Scheme News

Animal Health and Veterinary Laboratories Agency Diseases of Wildlife Scheme (AHVLADoWS). The quarterly reports of the GB Wildlife Disease Surveillance Partnership are published at: http://www.defra.gov.uk/ahvla-en/publication/wildlife-survreports/

Latest publication from the AHVLADoWS: Adenovirus infection in red squirrels in areas free from grey squirrels D. J. Everest, H. Butler, T. Blackett, V. R. Simpson and C. M. Shuttleworth. Veterinary Record 2013;173:199-200 doi:10.1136/vr.f5304 Link to full article

WIIS-Scotland. Gill Hartley, Wildlife Advisor at SASA presented a poster, entitled 'Impact of changes to the requirements for the on-farm burial of rats poisoned with rodenticides in Scotland', at the recent European Vertebrate Pest Management Conference at Turku University, Finland. The conference is the main European forum for discussing the control and management of mammal and bird pests.

The latest positive results for 2013 have been added to the SASA website and can be viewed at http://www.sasa.gov.uk/document-library/positive-results-2013.

The Pesticide Poisoning of Animals in 2012 report will soon be available to download at http://www.sasa.gov.uk/animal-poisoning-reports.

Disease Risk Analysis and Health Surveillance Project: A paper was presented at the 11th International Mammalogical Congress on our work to establish the identity of cestode parasites harboured by captive common dormice *Muscardinus avellanarius* destined for reintroduction to England, for the purpose of protecting free-living dormice from suspected non-native parasites and their potential to cause disease.

Peniche G., Sainsbury, A.W. 2013. Protecting free-living dormice: identification of cestode parasites in captive dormice (*Muscardinus avellanarius*) destined for reintroduction. 11th International Mammalogical Congress, Belfast.

The **Predatory Bird Monitoring Scheme (PBMS)** is pleased to announce that the Department for Environment, Food and Rural Affairs (Defra) and Scottish Natural Heritage (SNH) have joined the funding partnership for the PBMS this year. Over the last few years the number and breadth of PBMS funding partner organisations has increased to include government conservation and regulatory bodies, industry lead initiatives, and non-government organisations.

UK Cetacean Strandings Investigation Programme (UKCSIP) - here are the latest publications from the UK-CSIP:

- Blacklaws, et al. (2013) Molecular characterization of poxviruses associated with tattoo skin lesions in UK cetaceans. PLoS ONE 8(8): e71734. doi:10.1371/journal.pone.0071734.
- Jepson et al. What caused the UK's largest common dolphin (*Delphinus delphis*) mass stranding event? PLoS ONE 8(4): e60953. doi:10.1371/journal.pone.0060953.
- Law et al. (2013) Alternative flame retardants, Dechlorane Plus and BDEs in the blubber of harbour porpoises (*Phocoena phocoena*) stranded or bycaught in the UK during 2008. Environment International 60, 81–88.
- Law et al. (2013) Organochlorine pesticides and chlorobiphenyls in the blubber of bycaught female common dolphins from England and Wales. Marine Pollution Bulletin 69: 238-242.
- Moore et al. (2013) Criteria and Case Definitions for Serious Injury and Death of Marine Mammals Caused by Anthropogenic Trauma: Underwater Entrapment, Chronic Entanglement, Sharp and Blunt Vessel, and Gunshot. Diseases of Aquatic Organisms doi: 10.3354/dao02566

- Murphy et al. (2013) A review of the short-beaked common dolphin (*Delphinus delphis*) in the North-east Atlantic: distribution, ecology and conservation status. Oceanography and Marine Biology: An Annual Review 51, 193-280.
- Peltier et al. (2013) The Stranding Anomaly as Population Indicator: The Case of Harbour Porpoise *Phocoena phocoena* in North-Western Europe PLOS ONE 8(4): e62180. doi:10.1371/journal.pone.0062180
- Siebert et al. (2013) First indication of gas embolism in a harbour porpoise (*Phocoena phocoena*) in German waters. European Journal Wildlife Research 59:441–444. doi 10.1007/s10344-013-0700-4
- Southall et al. (2013) Final report of the Independent Scientific Review Panel investigating potential contributing factors to a 2008 mass stranding of melon-headed whales (*Peponocephala electra*) in Antsohihy, Madagascar. http://iwc.int/2008-mass-stranding-in-madagascar

WILDCOMS news

WILDCOMS are pleased to welcome two new schemes to the network: the **National Fish Tissue Archive** and **Swansea Ecology Research Team (SERT)**.

CONTACT US:

If you would like to see a particular topic in the “spotlight” section of the WILDCOMS quarterly bulletin, or would like to contact us about other WILDCOMS related matters, please e-mail the WILDCOMS coordinator, Dr Gloria Pereira (mdgds@ceh.ac.uk)