

British Wildlife
Rehabilitation Council
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Spring 2016 - Issue 64

The Rehabilitator

B W R C N E W S L E T T E R



In this issue
Further proceedings
of the BWRC 2015

Summer Workshop
at Reaseheath
College



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Leveret rescued
in Cambridgeshire
in February
(Chris Percival)

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BRITISH WILDLIFE REHABILITATION COUNCIL Summer Workshop 2016

Casualties to Cadavers - using post-mortem examination to inform future casualty assessment and decision making.



Saturday 11th June 2016
Reaseheath College, Nr Nantwich,
Cheshire, CW5 6DF
10am – 4pm



For programme and booking form see
www.bwrc.org.uk



A word from the Chair

Welcome to the Spring 2016 edition of The Rehabilitator! In this issue we bring you the second instalment of the proceedings of Symposium 2015, which was held at Langford Veterinary Services, University of Bristol on 17th and 18th October.

*Terri Amory
BWRC Chair*

During the morning session, David Chilvers from RSPCA East Winch (Norfolk) described his post-release study of roe deer casualties (see page 4). In the last session before lunch, Mrs Eileen Harris, Senior Curator of Parasitic Worms at the Natural History Museum described her work and made a plea for samples of parasites of native British Wildlife which have been overlooked in the past due to their assumed familiarity (p9). The last session of the day was an inspiring discussion of the potential for data derived from wildlife rehabilitation to inform UK conservationists from Dr Dan Foreman (p12).

Don Askew from the Wildlife Ark Trust has sent in an article about their new appeal to raise funds to complete the production of a vaccine against squirrel pox – see page 17 for details.

The International Otter Survival Trust has declared 2016 the Year of the Otter, and launched a fundraising campaign towards conserving otters worldwide. For more information visit their webpage http://www.otter.org/Public/News_StopPress.aspx.



As always – if you have comments or would like to contribute articles or advertise events please contact editor@bwrc.org.uk! *If you are a working rehabilitator, make sure that your up-to-date details are on our Directory of Rehabilitators – you can download a 'Rehabilitation Unit Contact Form' from the 'Find a Rehabilitator' page of our website (www.bwrc.org.uk).*



Post-release survival of hand reared roe deer

Presented by David Chilvers, RSPCA East Winch Wildlife Centre to BWRC Symposium 2015, 17th October 2015

Wildlife rehabilitation is a costly process which requires post-release monitoring of animals to assess their survival in the wild. Survival rates of rehabilitated animals can then be compared with those of wild animals, and, if rehabilitated animals are not achieving similar levels of success then rehabilitators should review their protocols and practices, and consider how post-release survival could be improved (through changes to policies or care of the animals during captivity). Rehabilitators should not expect to achieve 100% survival!

RSPCA East Winch annually release four or five roe deer that have required hand-rearing, following a fixed protocol (allowing for veterinary intervention if necessary for injuries etc.).

Indoors

The young deer (fawns) are initially housed indoors in small Vari kennels, with access to food – browse (plant material), Alfalfa and a small amount of goat concentrate mix (although this is rarely consumed in the early stages of captivity). The feeding process also comprises four times daily intervention – firstly by encouraging fawns to lap goat's milk from a bowl, and if this is refused fawns are fed via stomach tube (this is thought to reduce the likelihood of malimprinting in comparison with bottle feeding because it reduces the period of human contact, and the association with food/ suckling). Typically fawns will feed themselves from a bowl within a week of admission (even if they come



in as newborns), at which point stomach tubing is no longer necessary.

Human contact is deliberately minimised throughout rearing; staff wear the same set of overalls when working with these animals so that the overalls smell of the fawn and not the people.



Outdoors

Once fawns are feeding themselves, the Vari kennel will be moved to an insulated, heated outdoor loose-box, where noise levels are lower than the main hospital buildings. After a couple of days, the Vari kennel door will be left open so that the fawn can move freely around within the loose-box. Hay is used as bedding and the feeding regime remains the same.

After a week in the loose-box, (if the animal is old enough) the doors to the loose-box are opened to allow the access to a fenced paddock with uncontrolled vegetation to provide browse and promote natural behaviours such as hiding. The animals are gradually weaned off the goat's milk and concentrate mix, and remain in the paddock until fit for release.

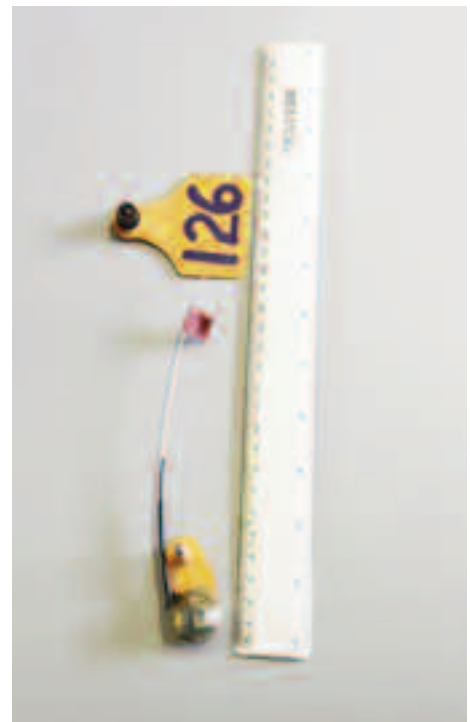


Release

Animals are released when ready rather than held back to be released as part of a group, and when groups have been released they have tended to separate quickly, showing no apparent advantage to group-release over releasing individuals. Deer are sedated and transported to the release site (with the landowner's permission) – usually within a few miles of the centre. Post-release monitoring is deliberately carried out away from the centre to establish survival rates 'in the wild' rather than in the relatively safe proximity of the hospital and grounds. No post-release support is provided (hard-release) and animals tend to disperse quickly into adjacent forestry and farmland. It is therefore vital that the animals are wild enough to actively avoid humans, dogs, vehicles etc.

Post-release monitoring

Not surprisingly, the better a tracking method is in terms of data generated, the more expensive it is. Radio telemetry is less much expensive than GPS, but only generates data when someone is out actively tracking the animals, while GPS tags (particularly on a collar that can hold a good battery pack) can generate round the clock data for up to about a year. Due to cost, monitoring has so far been carried out by radio-tracking (this also has the advantage of providing preliminary data that can be used to justify a case for purchasing GPS equipment later!).



Tags used must be appropriate to the species and situation as they can have their own negative effect on the behaviour, and ultimately the survival of the animal if too heavy, too brightly coloured etc. This study used ear-mounted radio tags weighing less than 7g, supplied by



Biotrack UK. Tags are fitted while the animal is sedated before transport to the release site, and it should of course be checked that tags are detectable at the required frequency before the animal is released.

Two methods of radio tracking can be employed – ‘homing’ involves following the animal directly, whereas triangulation means establishing the animal’s location by taking bearings on the transmitter signal from three different locations. Where those directions cross indicates the animal’s location without visual confirmation, so avoiding disturbing the animal on a daily basis. It can be assumed that if the animal’s position changes from day to day then it is still alive, and homing can be used once a week to visually assess the condition of the animal (and ensure that the tag is still attached to the target!).

As data for survival of wild juvenile roe deer is not available (no one has studied directly comparable animals), data from a relocation of 49 adult roe deer in France has been used as the closest available comparison. Despite being experienced adult animals, the relocation apparently resulted in a 35% death rate in the French deer within the first 30 days of release. It was to be expected that inexperienced young deer might not do as well as this. It was decided that tracking for 60 days would allow for comparison of the first 30 days and then a period beyond that to establish if the same pattern occurred.

Eight roe deer were released over a period of three years, and each tracked for upto 60 days. Five animals survived for 60 days; the other three (or 37.5%) died before 30 days (day 6, 14 and 28) one as a result of dog attack and two shot (probably illegally). This is considered to be a favourable comparison with the wild deer statistic, and so no changes in rehabilitation protocols have been made.

The three animals that died appeared not to have travelled as far as those animals that survived, but a further study using GPS would be needed to establish the animal’s movements at night (for example).



Questions following the presentation generated a discussion of the advantages and disadvantages of marking the deer with large yellow ear tags; it was considered likely that persons carrying out legal shooting (for example forestry commission culls) might deliberately avoid tagged deer, or have been known to report the shooting of a released casualty to the centre (the telephone number is printed on the back of the tag). Conversely in a situation of illegal shooting (which often takes place at night using a thermal scope) the presence of a tag would not make the animal any more visible to hunters. It is also important to consider that released casualties should not enter the human food chain until any antibiotics or other controlled medication has left the system, and therefore these animals should be marked to highlight this risk.

Article by T Amory, with kind permission of D Chilvers



Do you know what's in your backyard?

Presented by Eileen Harris, Senior Curator of Parasitic Worms, Natural History Museum, to BWRC Symposium 2015, 17th October 2015

“We know more about parasitic worms in Kazakhstan than we do about those in British Wildlife”.

In 1922 Dr H.A. Baylis, then head of the Natural History Museum's parasitic worms collection, designed a host-parasite catalogue in which he began to collate the host-parasite relationships published in scientific literature. This manuscript catalogue was maintained by museum staff until 1988 by which time data had been collected from more than 70,000 published papers. Since 1988 new records have been entered into a computer database which holds more than a quarter of a million records, part of which can be searched online - <http://www.nhm.ac.uk/research-curation/scientific-resources/taxonomy-systematics/host-parasites/database/index.jsp>

In her presentation, Eileen Harris took us on an entertaining whistle-stop tour of some of the weirder and more wonderful parasites collected for, or sent in to the Natural History Museum for identification, and the stories behind their discovery...



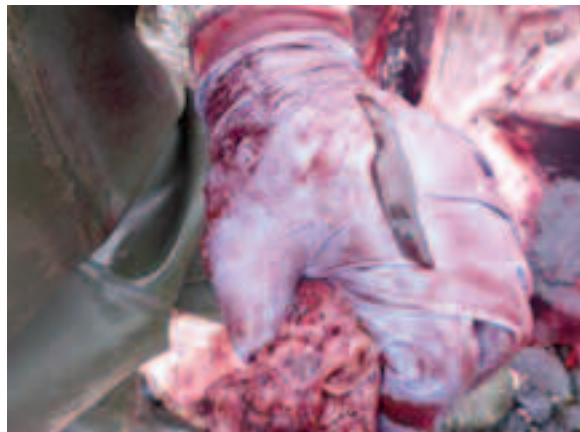


Captive skunk at Paignton Zoo in Devon infected by large *Balisascaris* nematodes thought to have been left by the enclosure's previous racoon occupants in the form of eggs viable in the environment for up to three years.



Jersey Zoo's beautiful Bali Mynah's puzzled experts when their chicks died 3-4 days after hatching. They were found to be infected by a cocktail of local parasitic worms probably from the droppings of local starlings perching on top of the Mynah's aviary. These were infecting earthworms that the Mynah's were feeding to their chicks.





Autopsies on stranded marine mammals are beginning to reveal the secrets of these hitherto unknown hosts.

Eileen's message was that our native parasites are often overlooked as 'common', when in fact they are poorly represented in the museum's collection, and there is much to learn. Amongst the material recently received are species not only new to Great Britain but some are almost certainly new to science. The museum has therefore launched their British Parasite Biodiversity Project in order to enhance their collections of British wildlife parasites as well as material from vectors such as maggots, fleas and flies for morphological and molecular studies. They can provide a service to the public providing identification and information about samples submitted, and intend, ultimately, to publish an online guide with keys, images and lists.

Eileen is also happy to provide a 'behind the scenes' tour of the parasite collection to interested visitors, and can also provide sample collection kits. Eileen can be contacted via e-mail – e.harris@nhm.ac.uk or Eileen Harris, Parasites & Vectors Division, Department of Life Sciences, Natural History Museum, Cromwell Road, London SW7 5BD.

Written by T Amory, published by kind permission of Eileen Harris.

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The potential value of wildlife rehabilitation in conservation

Presented by Dr Dan Forman, Department of Biosciences, College of Science, Swansea University, to BWRC Symposium 2015, 17th October 2015

Due to the small number of casualties (relative to population size) dealt with by rehabilitators each year, wildlife rehabilitation is often considered to be more significant to individual animal welfare than to species conservation. In his presentation, Dan Forman challenges this concept, explaining how information derived from wildlife rehabilitation could be hugely valuable to aid conservationists in their work.

Conservation consists of a large family of disciplines, mostly related to the preservation of biodiversity. Its importance to human society has been described in terms of the phrase “ecosystem services” – a vast range of functions of the natural world on which we depend, from the generation of oxygen by plants to the mental or spiritual benefits we derive from spending time in wild places. Conservation bodies battle with politicians to achieve legislation that is the key to protecting the natural world on any significant scale from the destructive effects of industry.

Some of the core questions in conservation science include:

- What are species’ distributions and how do they change over time?



- What are species population trends?
- How do habitat and ecosystem changes affect species' distributions and populations?
- What core resources (or “ecological niche”) do different species need?
- How important are road traffic collisions and other causes of mortality on population persistence and meta-population* dynamics?

*Meta-populations - a group of **populations** that are separated by space but consist of the same species. These spatially separated **populations** interact as individual members move from one **population** to another.

In answering these questions conservationists need to gather knowledge of population and community ecology. An example of such research is the Garden Bird Health Initiative run by the Zoological Society of London**, in which data on disease in garden birds was gathered with the help of the general public.

** *An update on this project was also presented at BWRC Symposium 2015 and was reported in the Autumn 2015 edition of The Rehabilitator.*



Polecat casualty of road traffic collision.
Photo courtesy of D Forman



So what areas can, or do, wildlife rehabilitation centres help with? Their unique access to wildlife casualties can provide data including

- population trends
- diet and trophic niche investigations
- distribution data for native species (common and under-recorded species as well as rare species)
- Non-native species distribution (increasingly important)
- Causes of mortality such as poisoning and pesticides, disease and parasites (these can of course have public and domestic animal health significance as well)
- Husbandry and best practice in captive breeding and rearing (for conservation)
- Education (through contact with the public and work with universities and other organisations)
- Post-release monitoring studies can provide experience in techniques and experimental design as well as data
- Molecular work and taxonomy – provision of specimens for studies of ‘evolutionary’ changes to populations over time



Post-release monitoring of wildlife casualties using radio-tracking.
Photo courtesy of S Allen



Why has collaboration between wildlife rehabilitators and conservation organisations been limited in the past?

Factors might have included differences in, or misconceptions about values and core beliefs between the two fields of work, and also a lack of time (rehabilitators often work to capacity with no time for other activities in busy seasons) or communication between organisations.

So what's in it for rehabilitators?

It is important that rehabilitators get to see the products and benefits of work to which they have contributed via feedback and access to reports and publications. Benefits to rehabilitators could include sharing of knowledge and best practice, engagement with a wider community and access to subject experts, standardisation of practices between organisations, and increased recognition of their work. Wider scale collaboration can produce more valuable larger scale studies with more power to influence political policies and legislation, and of course any benefits to conservation will in turn benefit human society through maintaining and improving those invaluable ecosystem services.

CONSERVATION NEEDS HELP – and wildlife rehabilitators could potentially contribute much more through greater collaboration with other organisations.

Written by T Amory, published by kind permission of Dan Forman.



Dr Forman was keen to hear views from Rehabilitators regarding collaboration, and raised the following questions.

1. Should wildlife rehabilitation centres (WRCs) link explicitly to conservation bodies and groups and share information and expertise?
2. What barriers and constraints are there that you have experienced and that you consider influence your willingness to become involved in conservation of species under your care and share data?
3. How do you use any distribution data that you gather and is there scope to develop a universal standardised system of data collection with a central portal from WRCs into the Biological Local Records Centres?
4. Do you already work with other partners that are conservation focused? If so, what types of organisations do you work with and what areas of work do you do with them?

If you would like to feedback via answers to the following questions or express any views on this topic please send them to d.w.forman@swansea.ac.uk, contact him via telephone - 01792 295445 or by post – Dr Dan Forman, Swansea Ecology Research Team, Department of Biosciences, College of Science, Swansea University, Singleton Park, Swansea SA2 8PP.



The greatest threat to our beautiful red squirrels

by *Don Askew, The Wildlife Ark Trust*

The native red squirrels contract a disease, squirrel pox virus (SQPV), from grey squirrels which is fatal to about 95% of the reds that become infected. Within a matter of weeks they develop raw, painful lesions which allow lethal, secondary infections to take hold or they are blinded and starve to death.

The situation is bad enough with SQPV restricted to Britain and Ireland but if the virus ever gets to mainland Europe it would then have a free run through the red squirrel populations of the continent right up to the shores of the Pacific.

As Dr Craig Shuttleworth of the Red Squirrel Trust Wales points out, “Disease mediated replacement of red by grey squirrels is more than fifteen times as rapid as competitive replacement through depression of red squirrel recruitment rates. It is therefore essential



that we have a means to tackle the spread of the virus."

Due to government inaction over the issue, the Wildlife Ark Trust, a charity run entirely by volunteers, went out and raised £300,000 to allow the Moredun Research Institute to try to develop an SQPV vaccine. The charity owns the IP to the vaccine which means that it can guarantee that the vaccine will be supplied at cost to any organisation which needs it so nobody will be able to profiteer from the red squirrels' suffering. The vaccine project has now been recognised by governments across Europe from Norway to Spain. (See www.wildlifearktrust.com)

Chris Packham, the naturalist and television presenter, said, "I've had the privilege and pleasure to have been supporting the Wildlife Ark Trust for the past five years. It has been pioneering in its approach to red squirrel conservation, keenly and successfully exploring an intelligent and forward thinking approach to the crisis affecting this species - the development of a vaccine to protect it against the squirrel pox virus."

An effective vaccine candidate which protects the red squirrels against the virus has now been discovered but, due to the side effects, the candidate now needs to be attenuated (modified). The cost of the attenuation is £195K of which £48k has already been raised. The Wildlife Ark Trust is now looking to raise the remaining funding for this crucial research to save the native red squirrel.

Contributions to the appeal can be made online by visiting <http://www.wildlifearktrust.com/appeal.html>





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Terri Amory, Janet Peto, Tim Thomas, Anne Maskell, Simon Allen, Molly Varga, Adam Grogan, Chris Percival

BWRC would like to thank volunteers Caroline Gould **Website Administrator** and Jayne Morgan **Facebook Page**

Newsletter designed and produced by Nadine Barrow

If you would like to submit an article or letter for publication or give a presentation at a future symposium please contact

Annemaskell@gmail.com

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REHABILITATION UNIT CONTACT LIST DETAILS FORM

The following details are to be included in the Rehabilitation Unit Contact List held by the BWRC and displayed on the BWRC website. **Fields in bold are mandatory.**

1. Name of rehabilitator or organisation	<input type="text"/>
2. Address (or town/district)	<input type="text"/>
3. County	<input type="text"/>
4. Telephone number	<input type="text"/>
5. Alternative telephone (e.g. mobile)	<input type="text"/>
6. E-mail address, if applicable	<input type="text"/>
7. Web address, if applicable	<input type="text"/>
7. Species of casualty accepted and any additional comments on the facilities of the unit to be included in your entry – alternatively, please note here if your organization provides a related service other than direct rehabilitation [continue overleaf if necessary]	<input type="text"/>
8. Opening hours/preferred times for calls, if applicable	<input type="text"/>
9. Are you prepared to collect casualties? [If so, specify area/terms as necessary]	<input type="text"/>
10. If you are sending us a hard copy of this form, please sign alongside & print your name to confirm that you understand that the above details will be stored in the BWRC Contact List database and may be displayed on the BWRC website.	Signed
	Print name

IF YOU ARE RETURNING THIS FORM BY EMAIL, PLEASE INCLUDE THE FOLLOWING STATEMENT ON THE FACE OF YOUR EMAIL TO ENABLE US TO USE YOUR DATA:

"I hereby give my permission for the attached details to be stored in the BWRC Contact List database and displayed on the BWRC website."

PLEASE HELP US TO KEEP THE BWRC REHABILITATION UNIT CONTACT LIST UP TO DATE BY NOTIFYING US OF ANY CHANGES TO THE ABOVE DETAILS AS SOON AS POSSIBLE.

Please return to: *Mrs Anne Maskell, 27 Admiral's Way, Eaton Socon, St Neots, PE19 8TD*