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Deer Initiative Conference: Deer, Habitats and Impacts Palace Hotel, Buxton, Derbyshire 23rd – 24th March 2007

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For more information, or a booking form if you are interested in attending please see:

www.thedeerinitiative.co.uk/html/conference.htm

or contact Jackie Symmons, DI Wales, Po Box 39,
Brecon LD3 8PP

01874 636148/07768 983087

The Mammal Society's Easter Conference

Venue – Royal Agricultural College,
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13th – 15th April 2007

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or by contacting the office on 020 7350 2200.

Bat Conservation Trust Mitigation Conference University of Leicester 25th and 26th April 2007

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Mammal News

NEWSLETTER

Spring 2007 No 147



THE
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SOCIETY

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News**

Mammalaction

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centre**

**Thinking
BIG about
conservation**

**National
Whale and
Dolphin
Watch results**

**Changes to
Habitats
Regulations**

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The Mammal Society

2B Inworth Street

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T: 020 7350 2200

F: 020 7350 2211

E: enquiries@mammal.org.uk

W: www.mammal.org.uk

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Editor: Sue Searle

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mammalnews@mammal.org.uk

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geeve@blueyonder.co.uk

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Those of you who attended the autumn symposium, or who have had occasion to call the office, will know that we have a new chief executive, Callum Rankine. Callum comes to us from WWF where he worked on various endangered species, including the snow leopard, and achieved a reputation as a significant fund raiser and for his work with the media. A long time member of The Society, he is already known to a large number of mammalogists and has been forging links with, or reaffirming our relationships with, other organisations. We are expecting great things from him.

While talking about people, both George Bemment, one of the two vice chairs, and Tim Roper, chair of the scientific advisory committee, have decided to resign from council because pressure of work means that they have not the time they would like to devote to The Society. I would like to take this opportunity to thank them both for their hard work and wise advice in the past and particularly to George who has been on council almost continuously for many years.

One of the significant events in the coming year will be the changes to the Habitats Regulations brought about as a result of a judgement by the European Court of Justice in 2005. This has required the government to remove various defences previously available in the legislation in relation to protected species. If you are an ecological consultant, a householder with bats in your roof space or simply have a small collection of dead bats, then the changes will apply to you and are set out in more detail on pages 6 and 18.

You will no doubt have seen from the papers with this newsletter that The Mammal Society conference this year is in Cirencester from 13 to 15 April. The programme is an interesting and varied one and it promises to be an enjoyable weekend. We have a special slot in this year's programme for local mammal groups. It would be good to see as many groups as possible represented at that meeting so that we can hear your views on what The Society can do to help your group.

Finally the dormouse BAP focus group is looking for new sites to release dormice from the captive breeding programme. These should be in counties where dormice once existed but from which they have become extinct, mainly the north and east, and to which Natural England is keen to see them restored. The ideal is 20ha of semi natural ancient woodland with a good species mix and a varied shrub layer. Contact me at The Mammal Society in the first instance if you think you can help.

E: mwoods@mammal.org.uk

NOTE FROM THE EDITOR Sue Searle



This is the 10th edition of Mammal News that I have edited and I am still enjoying it very much. Thank you to all the contributors both of articles, photos and illustrations over the last 3 years – I couldn't have done it without you! Don't forget – I am always looking for interesting mammal-related articles so please keep them coming in. I am especially keen to hear from local mammal groups and about your 'close encounters' with mammals.



Infrared otter monitoring

Journal of Zoology, 270, 577 – 584, December 2006

Perhaps one of our most elusive mammals is the Eurasian otter (*Lutra lutra*) and monitoring its activity has been challenging. However, a study by the University of Wales, Swansea investigating the use of underwater image-capture as a survey method looks set to improve our knowledge of this riparian mammal. Infrared beam counters traditionally used in fish hatcheries were submerged in three tributaries of the River Dee, Scotland from 2003 to 2004 and used to measure daily and seasonal otter activity, body size and swimming speeds.

Otter body size was derived by silhouettes captured by the monitor. Those measuring less than 59 cm head to tail were excluded from results as being mink – unless they closely followed a larger image when it was counted as a juvenile otter. Average otter length was 75 cm. Daily otter activity was mainly at dawn (04.00 – 06.00hrs) or late at night (21.00 – 23.00hrs) with very little daytime movement. The salmon breeding season in November/December saw the most activity. It is hoped that this non-intrusive monitoring device will be invaluable for providing data to aid in otter conservation.

Impact of salmon fisheries on harbour seals

Animal Conservation, 10, 48–56, February 2007

Seals are legally allowed to be culled by shooting in certain areas where UK fisheries operate. The numbers killed are not required to be reported, so the effects of culling marine mammal populations in relation to other factors such as food availability is not known. In contrast to the identified rising population of grey seal (*Halichoerus grypus*), the harbour seal (*Phoca vitulina*) situation is less clear. The University of Aberdeen investigated population trends looking at previous land/aerial surveys and estimates of seals shot within the Moray Firth area of Scotland. This data was used to approximate impact using several population models.

Harbour seal numbers declined by 2–5% from 1993 to 2004 with fisheries reporting an estimated average of 160 harbour seals shot each year from 1994 to 2002. Models produced indicated that most of the harbour seal decline was likely to be due to culling. The study suggests that future detailed surveys of both population numbers and control methods will be beneficial in order to determine the relative impact on the seals.

Mink diving behaviour

Journal of Animal Ecology, 76, 183 – 190, January 2007

The use of time-depth recorders (TDRs) have previously been used to measure the diving depths, times and temperatures of marine animals but the University of Wales and the Wildlife Conservation Research Unit (WildCRU) at Oxford are using recent advances in this technology to monitor the American mink (*Mustela vison*). Previously TDRs were not precise enough to measure the much shallower and shorter dives of semi-aquatic mammals but this study has investigated the possibilities of using the improved recorders to observe diving behaviour.

TDRs measuring 31mm long, weighing 2.7g in air and 1g in water were attached to radio-collars placed on mink from two Oxfordshire rivers between December 2005 and March 2006. The mink's dive duration and depths were recorded along with their temperature whilst diving. Mean dive depth was 0.3m and mean duration was 10 seconds, although dives of almost 3m and longer than 30 seconds were also recorded. They also found some mink dived once a day whereas others dived in excess of 100 times each day.

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The Mammal Society

Compiled by
**Sue Searle and
Callum Rankine**

New Chief Executive

We would like to welcome our new (and first) Chief Executive – Callum Rankine, who started on 13th November 2006. Callum is originally from Scotland but has been living in Surrey for the past 10 years (not that you would be able to tell from his accent!). He has previously worked for English Nature and for the last 10 years with WWF, initially as UK Species Officer, then co-ordinating the Large Carnivore Initiative for Europe and most recently as Head of Species managing the species portfolio including tigers, pandas, rhinos and elephants. His specialist subject is snow leopards although he doesn't have plans (just yet) to release them into the Highlands. A trained ornithologist with a passion for shorebirds, Callum also has an interest in beetles, small mammals, mustelids (especially pine martens) and large carnivores. When he is not at work his twin passions are rock climbing and kung fu, but sea kayaking and a new found interest in cycle sportives are also proving to be major distractions.



Callum Rankine, new Chief Executive, The Mammal Society

Photo by Sue Searle

Current Projects on British Mammals 2007/2008

One of our stalwart volunteers, Micky Gwilliam has once again put in a huge effort to produce this valuable resource for all mammalogists. Thank you Micky! We hope you find it useful and if you do, please let us know. If you have any ideas on how we could make it better please get in touch with us at the Office.



Obituary – Peter Grubb (1944 – 2006)

Peter Grubb, a long-term member of The Mammal Society and distinguished mammalogist died on 23rd December 2006. After gaining a BSc (Zoology) at University College, London, he spent 3 years studying Soay sheep for his PhD (see inter alia Jewell *et al* 1974 *Island Survivors: the ecology of the Soay Sheep of St Kilda*). For this he was highly commended in 1968 by the Zoological Society of London under the Thomas Henry Huxley Award for original contributions to Zoology. He spent twelve years teaching at the University of Ghana, which ignited his long-lasting interest in the taxonomy and distribution of African mammals, and came back to England for the education of his children. Unable to get a University post on his return to England, he became a school teacher, but somehow managed to maintain his research interests and output. It became a regular feature of visits to the British Museum (Natural History) mammal section to find him enthusing around the ungulate skulls or delving in the archives. His knowledge of holdings both there and in many other museums gave him an unrivalled understanding of large-mammal taxonomy, which he willingly shared with others, even through times when it was an unpopular topic. Singly or in collaboration, he published checklists of the mammals of various West African countries (Sierra Leone, Gambia, Ghana) and numerous taxonomic revisions, for instance of warthogs, genets and buffalo. Several of the IUCN action plans (e.g. pigs) relied on his expertise to set their taxonomic framework. A major contribution was the compilation of the Order Artiodactyla for Wilson and Reeder's *Mammal Species of the World*. His last significant contributions were to the forthcoming 5-volume *Mammals of Africa*. In June 2006 he was presented with the Stamford Raffles Award for contributions to zoology by the ZSL. His enthusiasm and insight will be sadly missed.

Our condolences go to his widow Eileen and their family.

D W Yalden, President, The Mammal Society

News from the Office



Radio Tracking course

Photo by Sue Searle

Training Courses 2007

You will have received the Training Courses booklet with your last copy of Mammal News. Have you ever wanted to know more about dormice? Or would like to brush up on your identification skills? Why not come on a Mammal Society training course this year?

Interest has been high (particularly for dormice courses) so if you are in two minds about whether to book a place or not then don't delay! Places are filling up fast. Mammal courses also make great presents for friends and relatives.

We would really like to know if there are any courses we are not running this year that you would like to see for next year – please send your ideas to the Office.

Courses with spaces still available are listed on the right.

If you are interested in any of these courses phone the Office for more details or to request a copy of our training brochure.

Did you know? We can also run courses in your area to suit your mammal group. Call the office to find out more.

COURSES AVAILABLE

Dormouse Ecology and Conservation

16th July – Wildwood, Kent

18th September – Wildwood, Kent

21st September – Cheddar, Somerset

Mammal Identification

11-13th May – FSC Blencathra, Cumbria

6-8th July – FSC Kindrogan, Perthshire

20th-22nd July – FSC Malham Tarn, Yorkshire

12th-14th October – FSC Preston Montford, Shropshire

20th-21st October – FSC Epping Forest, Essex

Small Mammal Ecology and Survey Techniques

16th June – FSC Preston Montford, Shropshire

8th September – National Trust, Wicken Fen, Cambridgeshire

15th September – FSC Juniper Hall, Surrey

Management for Riparian Mammals

26th-27th April – Cotswold Water Park

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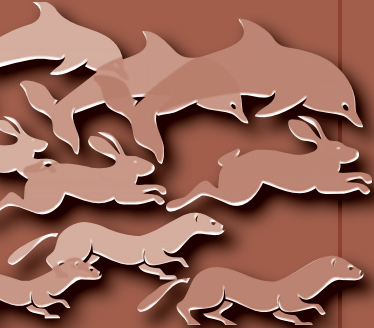
Handbook of British Mammals, 4th Edition

We hoped to have had all the species accounts in by July, and to have sent the typescript to the printer by now. Evidently that was optimistic. However, they are nearly all with the section editors, and some have now been fully edited as well: insectivores and bats are all done, carnivores are all assembled, most of the work on ungulates has also been done. Maps have been drafted, annual cycles are also being prepared, and new artwork from Guy Troughton has been commissioned.

We will tweak the title – it should refer to Mammals of the British Isles (to include Great Britain, Ireland, Man and the Channel Isles, as it always has).

Watch this space for further news.

Dr Derek Yalden
President of The Mammal Society



News from the Office

By Emma Stone,
Project Officer, Pilot
Small Mammal National
Monitoring Project,
The Mammal Society.



Emma Stone

Photo by Michael Woods

Scoping Study Report

Sibbald, S., Carter, P. K. L. & Poulton, S. (2006). *Proposal for a National Monitoring Scheme for Small Mammals in the United Kingdom and the Republic of Eire*. The Mammal Society, London,

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Battersby, J. (Ed) & Tracking Mammals Partnership. (2005) *UK Mammals: Species Status and Population Trends. First Report by the Tracking Mammals Partnership*. JNCC / Tracking Mammals Partnership, Peterborough.
Birks, J. (2002) *The Pine Marten*. The Mammal Society, London
Kitchener, A. (1995) *The Wildcat*. The Mammal Society, London.
Macdonald, D. W. & Tattersall, F. (2001) *Britain's Mammals: The Challenge for Conservation*. People's Trust for Endangered Species, London.

By Michael Woods

The Mammal Society pilots the first ever Small Mammal National Monitoring Scheme for the UK and Republic of Eire.

Small mammals are an essential component of most terrestrial ecosystems, providing the main source of food for many species of Britain's rarer birds and carnivores (Birks, 2002; Kitchener, 1995). Small mammals are also important indicators of environmental change, with many species such as field voles (*Microtus agrestis*) and harvest mice (*Micromys minutus*) being sensitive to changes in agricultural practices (Battersby, 2005; MacDonald & Tattersall, 2001). However, despite their ecological importance there is insufficient data on many of our small mammal species to enable accurate assessments of their conservation needs. This is a particular concern resulting in many species failing to be assessed as part of the UK BAP process due to lack of evidence.

Recognising this need and with funding from the Joint Nature Conservation Committee (JNCC), The Mammal Society conducted a review of all small mammal monitoring techniques in 2005 and subsequently produced a proposal for a unified National Small Mammal Monitoring Scheme. The proposed scheme involves using a network of volunteers across the UK, Eire and the Channel Islands to survey 13 small mammal species. It uses a two stage sampling strategy, with Ordnance Survey tetrads (4km² grid squares) as the Primary Sampling Units (PSU), within which varying numbers of Secondary Sampling Units (SSU) are placed according to the availability of habitats. The project uses five different SSUs in order to survey all the species outlined: harvest mouse transects, field vole transects, bait tube transects and extensive and intensive live trapping transects. Expert volunteers are assigned a minimum of two PSUs nearest to their home and asked to sample them using as many of the SSUs as possible over two survey seasons per year.

In 2006 this proposal was adopted and with funding from JNCC we are now conducting the first stage of a two year pilot scheme using a network of expert volunteers for the trial period. The pilot scheme will allow us to assess the length of time required for each technique, the ease of use of each technique, and their suitability for a range of volunteer expertise. It will also give us the opportunity to look at factors such as the range and resolution of the habitat information required and the range of data values we can expect to obtain.

The results of this pilot will be written up by the end of March 2008 and will be used to develop a monitoring scheme with a nationwide network of volunteers. At present we are just coming to the end of our first pilot survey season of winter 2006/2007 and are conducting a workshop in February to gain feedback from the participating expert volunteers. The next survey season will commence in early May 2007 and we would like to invite one local Mammal Group to participate in the pilot to enable us to gain further feedback and trial the techniques at a local level. If you are a member of an active Mammal Group which has some experience of small mammal work and would like to help us develop this important project, please get in touch with Emma Stone, Project Officer on emzstone@tiscali.co.uk, or 07922 157055. Please remember you will need to have spare time to conduct field work between May and June 2007.

Further information about the project can be found in the project proposal which can be downloaded from The Mammal Society's website www.mammal.org.uk. Further updates on project progress will be provided in the coming editions of Mammal News so keep reading!

Do you have a dead bat, an otter skin or a European beaver skull?

As a result of a judgement made by the European Court in October 2005, new legislation is to be introduced to ensure that we line up with Europe in relation to European protected species. Among these is a need to hold a licence from the relevant country agency*, if you have any live or dead wild animal of a European protected species, or any part of, or anything derived from such a wild animal which was obtained since 1994. It seems likely that the right to keep a reasonable number of specimens, say ten dead bats, will be added to a personal bat licence for people using them for teaching purposes. What is more, it has been decided that there will be no need to hold a licence for something like a reference collection of bat droppings.

Nevertheless, if you have an extensive collection of bat species or several of the same one so that individuals in a group of trainees can inspect salient points at the same time, then it is likely that a separate licence will be required. It may be possible that these will be extended to cover a licence period of several years. The country agencies are not looking for work and the additional bureaucracy could become incredibly expensive. Nevertheless, having inherited an interesting mammal collection to add to the one I already have, I am not looking forward to going through the licensing process, especially as I have just discovered that I have five otter skins alone! Meanwhile some of The Society's skins and skulls for its various training activities will presumably also need licensing.

See page 18 Consultant's page for more on this topic.

* Natural England, Countryside Council for Wales, Scottish Natural Heritage, Environment and Heritage Service, Northern Ireland

Notice of the Fifty Third Annual General Meeting of The Mammal Society

Notice of AGM

**The Mammal Society's Annual Easter Conference
13th-15th April 2007,
Royal Agricultural College, Cirencester.**

The conference will bring you the latest information on British mammals, with talks and outdoor events, including trips to Woodchester Park and Cotswold Water Park. Accommodation will be provided in Halls of Residence. A programme and booking form can be found with this edition of Mammal News but you can also download a copy from our website www.mammals.org.uk

Agenda of the 53rd AGM

The Annual General Meeting of The Mammal Society will be held at 14.10hrs on the Saturday 14th April at Boutflour Hall, Royal Agricultural College, Cirencester, Gloucestershire. All members are welcome.

Provisional Agenda

1. Apologies for absence
2. Confirmation of the Minutes of the 2006 AGM
3. Business arising from the Minutes
4. Report from Council
5. Treasurer's Report
6. Election of Officers
7. Election of Ordinary Members of Council
8. Appointment of Auditors
9. AOB

Following the AOB there will be time for general discussion.

Any members wishing to have an item included under AOB should notify the Honorary Secretary in writing no later than 23rd March 2007.

This year there will be a special slot at the conference for local mammal group members to get to know each other and discuss projects and ideas.

Thinking BIG!

How can we overcome barriers to large-scale

Dr. Adrian D. Manning

Centre for Resource and Environmental Studies, The Australian National University, Canberra, ACT 0200 Australia
adrianm@cres.anu.edu.au
www.cres.anu.edu.au/~adrianm

"At first people refuse to believe that a strange new thing can be done. Then they begin to hope it can be done. They see it can be done. Then it is done and all the world wonders why it was not done centuries ago."

The Secret Garden, Francis Hodgson Burnett 1911.

The British Isles have been occupied by human beings for millennia. During this time human action has radically altered the ecosystems of these islands. Many have been destroyed, leading to the loss of native plants and animals and the cessation or modification of many ecological processes. At the same time, of course, many new ecosystems and landscapes have been created as a result of human enterprise. The latter changes brought new and unique suites of animal and plant species; many of which came to be highly valued by society. Now, many of these ecosystems and landscapes are themselves threatened, or have already been destroyed, by processes such as agricultural intensification, urbanisation and, increasingly, climate change.

As a result, the British Isles has no 'wilderness' left and our cultural landscapes are threatened. Similar patterns of degradation are occurring globally. Humanity is undermining the Earth's life support systems upon which we depend for survival. Consequently, ambitious large-scale ecosystem restoration will be essential to avert the collapse of the biosphere (Millennium Ecosystem Assessment 2005).

Over the last year or so I, and colleagues at the Centre for Resource and Environmental Studies at the Australian National University, have been

thinking about a key question that the above situation raises for conservationists both locally and globally:

"Why, despite the obvious and growing need for ambitious, large-scale ecological restoration, is it rarely undertaken on the ground?"

In an effort to begin answering this question, we recently published a paper in the journal *Restoration Ecology* in which we explored the issues (Manning et al., 2006). In this paper, we outlined some of the barriers to ambitious, large-scale ecological restoration and proposed some approaches called stretch goals and backcasting to overcome them. We also described the Trees for Life project in the Scottish Highlands – a project which is a working example of these approaches. The concepts, ideas and examples from that paper form the basis of this article, the aim of which is to focus specifically on the implications which stretch goals and backcasting could have for large-scale ecological restoration in the British Isles.

To begin with, I would like you to imagine some ambitious vision for future landscapes of the British Isles. These future visions should be unconstrained. Based on your knowledge and interest in ecology and conservation, what would you like the varied landscapes of the British Isles to look like in the future? Each of us will, understandably, have different visions. For example, imagine the British Isles consisting of a mosaic of sustainable rural and urban landscapes and places where self-regenerating "wild" ecosystems flourish from the treeline to the coast. Imagine landscapes where biodiversity is simply a by-

product of good management and planning. Imagine landscapes where currently rare species thrive or re-colonize naturally, where common species stay common and where reintroduced species, like beaver, spread and flourish. Imagine a British Isles where resilient landscapes allow organisms to move and adapt in response to climate change. Imagine the development of a cultural appreciation of, and support for, maintaining these landscapes.

Whatever our visions might be, the challenge is not the "what?", the real challenge is the "how?". How do we achieve ambitious large-scale restoration projects on the ground? There are considerable barriers to doing this. How can we overcome these barriers and achieve what currently seems impossible?

Some key barriers that could prevent the initiation of ambitious restoration projects include:

- **Shifting baselines** – "shifting baselines syndrome" is where the expectations of environmental conditions are gradually lowered over successive generations as the environment is degraded. Ultimately this could make it difficult to gain support for ambitious restoration projects, such as those involving animal reintroduction.
- **Scale** – restoring large-scale processes and wide-ranging species requires restoration on a scale previously unknown in the British Isles. This may seem to many people to be too extensive, radical or difficult to visualise.
- **Ambitious restoration is radical** – proposals to reintroduce animals that have been locally extinct for a long time could seem too radical, or even threatening, and act as a barrier to large-scale restoration. Similarly a shift from organized and "tidy" landscapes to more messy "natural" landscapes could also seem threatening.
- **Restoration is complex** – the rebuilding of complex processes and trophic interactions is an exceptionally complex, multi-stage process. Restoration of particular organisms or processes may not be possible until other species or processes are restored first.
- **Restoration is long-term and open-ended** – manifestly, ecosystems are complex and change constantly, and restoration is a long-term process where there is often no definable endpoint. The timeframes involved in restoration can be difficult to comprehend and could make it difficult to attract short-term and long-term funding. This in turn could preclude initiation of ambitious restoration projects.
- **Lack of funding?** – funding (or lack of it) is often seen as a major barrier to large-scale restoration. Yet the UK, for example, is one of the richest countries in the world. Is funding really a limiting factor? Ultimately, the availability of funding is determined by the goals and priorities of society and the political imperatives of elected governments.
- **Pre-emptive constraint of vision** – pre-emptive constraint of vision occurs due to the many barriers, difficulties and potential controversies associated with ambitious restoration. It results in decision-makers and policy-makers consciously, or subconsciously, limiting their vision before they develop or propose a project. This can manifest itself in the postponement of ambitious restoration to some indeterminate time in the future (also called NIMPOO – Not in My Period of Office by Peter Warren in 2002). This risk aversion can preclude the essential first steps of a multi-stage restoration process.



Teign Valley mists
Photo by Sue Searle

ecological restoration in the British Isles?

Stretch-goals and backcasting

Due to the above, and other barriers, the restoration of large, functioning ecosystems is unlikely to emerge by chance through the cumulative effects of small-scale, ad-hoc restoration efforts. Coordination of actions and the explicit articulation of a restoration vision are essential. Two potentially useful approaches called *stretch goals* and *backcasting* could offer ways of overcoming barriers to produce the changes needed.

Stretch goals

The idea of stretch goals emerges from the world of business, management and industry. They are highly ambitious goals that are identified to inspire creativity and innovation to achieve things that currently seem impossible. The best example of this was in 1961, when John F. Kennedy announced that NASA would land a man on the moon. At the time this was not considered technically feasible, but the identification of the goal drove the innovation to make it happen. A number of characteristics of stretch goals mean they are well suited to help overcome major barriers to ambitious restoration projects:

- (1) they are long-term;
- (2) they are set to drive the pursuit of solutions of which we are currently unaware;
- (3) they create a unified vision that all stakeholders understand and can work towards;
- (4) they provide an overall vision that provides a context for shorter-term actions and milestones;
- (5) the vision provides a tangible entity that can be used to gain support;
- (6) they allow recognition of longer-term, more radical goals without jeopardizing or stalling project initiation;
- (7) individuals and organizations can fund short-term actions or milestones while 'buying' into the longer term vision.

Bold visions that capture the imagination are vital for attracting support and funding from society. Stretch goals can provide this bold vision. They can also help guide short-term milestones working towards that vision. This is particularly important where certain processes or keystone species need to be in place before biodiversity can be sustained. Thus "anticipatory restoration", which begins in preparation for future reintroductions of keystone species, will be an important tool (for example, restoration of riparian vegetation for beaver – see below). Anticipatory restoration is particularly relevant to the British Isles where ecosystems are lost or highly modified.

Backcasting

Shaping future visions based on past trends (i.e. forecasting) is problematic because the cause of those trends are often part of the problem – resulting in 'realistic' strategies that fall short of what actually needs to be done. Backcasting is an approach which overcomes this by starting with the ambitious vision (i.e. a stretch goal) and works back from that to devise a pathway of actions to achieve that goal. Backcasting also allows the assessment of feasibility and desirability of a goal, the comparison of alternative futures, and the identification of any obstacles. The use of backcasting and scenario planning – where different options are considered together – to help in

working with the community, offers a way to devise restoration projects that have the support of all stakeholders.

Stretch goals and backcasting in action – Trees for Life, Scottish Highlands.

Despite the many barriers and challenges to ambitious large-scale restoration projects, there are now a number of outstanding restoration projects in the British Isles, one of which is Trees for Life in the Scottish Highlands. The vision (i.e. the stretch goal) of Trees for Life is to restore a large contiguous area of Caledonian Forest (2238 km²) in the north-central Highlands. This will comprise 1,550-1800 km² of wilderness surrounded by a buffer zone of sustainably managed forest. As part of this vision, the long-term aim is to recreate an ecosystem that can support animals such as beaver, wild boar, lynx, moose, brown bear and wolf.

Practical actions by Trees for Life include protecting tree regeneration with fences, tree seed collection and propagation, tree planting and removal of exotic tree species. Some milestones towards the vision include: (1) the establishment of islands of young forest throughout the area to act as nuclei for natural regeneration; (2) the reduction of deer numbers to allow tree regeneration without fences; (3) the removal of existing deer fences. The use of the Trees for Life vision to define what these shorter-term milestones should be is a good practical example of backcasting. Trees for Life are also undertaking "anticipatory restoration" (see above) of aspen with the future reintroduction of beaver in mind. Through these efforts it can be seen how the ambitious stretch goal (including restoration of lost predators) does not stand in the way of the shorter term practical actions, but acts as an inspiration and guiding vision for milestones.

Conclusion

Conservationists and restoration ecologists are often challenged by opponents to justify "why" a particular project should go ahead. Of course, it is right and proper that this is the case. However, the equally challenging question that is rarely asked of opponents of change is "why not?" This is a difficult question to answer. For example, why not restore the beaver to every major water catchment of the British Isles where they would have naturally occurred? To date, no substantive argument raised against beaver reintroduction holds water (excuse the pun). The benefits far outweigh any negative effects. Why then is the pressure only on the conservationists to prove their case?

In reality, landscapes and ecosystems are constantly changing. We cannot lock-in any particular state, even if we would like to do so. With the onset of rapid, human-induced environmental change, managing landscapes pro-actively to enhance conservation value and resilience will be vital. Ambitious and innovative ecological restoration projects that meet this challenge are both essential and inevitable. Stretch goals and backcasting are two approaches that could help us achieve these ambitious management actions over large areas of the British Isles. If we can do this, as Francis Hodgson Burnett pointed out in the Secret Garden, things that seem impossible today might seem obvious to future generations.



Rutland Water

Photo by Sue Searle



New Forest

Photo by Sue Searle

This article is based, in part, on concepts and ideas outlined in the recently published paper by Manning et al., 2006 (see below). References have not been included due to lack of space but for more information, and a full list of references, please contact Adrian Manning on adrianm@cres.anu.edu.au

Acknowledgments

Adrian Manning is a member of Trees for Life. Thanks to Joern Fischer and David Lindenmayer for discussions and collaboration on our *Restoration Ecology* paper. Thanks to Adam Felton, David Hetherington, Michellé Mabile and Robert Manning for valuable comments on earlier versions of this article.

Reference

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Close Encounters

**By Mike Thurner
of Surrey**

Pair of stoats

Photo by Mike Thurner

Stoat/heron interaction

Whilst bird watching at a lake in Northumberland, a stoat appeared on an island opposite the observation hide. It darted down to the lake side and then another joined it to romp and chase along the water's edge, over a drainage pipe and back into the long grass behind. A heron standing on the other side of the lake also noticed and flew over to land near the stoats, which initially disappeared down a burrow. Soon one of the stoats came out and approached the heron which retreated into the water. The confrontation swung back and forth. Sometimes the heron would advance onto the shore and the stoat would retreat down the hole, after which the heron would approach the burrow and peer into the entrance poised to strike. At other times the stoat would advance and the heron would retreat into the water menaced by the stoat, at one point standing upright on a rock in the water. The action ebbed and flowed for over 20 minutes. It seemed that each considered the other a potential meal, but too risky to obtain.



Stoat meets heron

Photo by Mike Thurner

By Roy Allerby

I received a long letter from Roy Allerby of Malpas, Cheshire with some gems of mammal observation – here is a selection: (Editor)

Foxes

I have had 57 years experience of living with foxes. Every fox is an individual, often differing greatly from the fox next door, so you can never be dogmatic about them. For 15 years as a self employed market gardener and poultry breeder, I had excellent relations with several vixens over time. I had a 3 acre poultry breeding farm in the middle of birch, pine and heather which had been part of Delamere Forest. At least two or three of these vixens never looked at the chickens, but ate rats, mice, pigeons and slugs etc, and as such, I welcomed them. Even in daylight, they would sometimes walk past the free range and deep litter pens just to get to the other side. I never lost a chicken. Now, if I had shot them, a new fox would have taken over, and the story could have been vastly different.

A couple of years later, I was fishing on a remote Welsh mountain lake. I was disguised with three clumps of sedge, so I was not conspicuous. A fox came over the top of the hill and trotted straight up to a ewe with a lamb not much bigger than a large rabbit. The fox and the ewe smelt noses quite amicably, the fox did not look at the lamb and then trotted off. What was going on here? Clearly the relations of fox and prey are somewhat different from what shepherds and farmers would like us to believe. I once had regular meetings with a dog fox when I did a lot of night fishing for carp. I was not alone as this animal used to come, often at 3.30 a.m. and jump from one mud sandbank to another at Sand Mere. In between were channels 12" to 18" deep, which the carp used to swim up. Hocks awash, the fox used to jump on them. He had a bit of a job, getting a hold, but once he did he got a good dinner. Very versatile mammals are foxes.



Foxes – very versatile mammals

Photo by: Sue Searle

Mammal projects – Living holts



I had the privilege some years ago of working for both Kent and then Sussex Wildlife Trusts as their Otter & River Project/Wetland Officer (OARP Officer). In this role I, like many other Wetland Officers, promoted and installed artificial otter holts along waterways in my area, ranging from the River Stour in east Kent to the River Rother on the Hampshire/West Sussex border. These holts were, and are still, needed in many areas, such as SE England, where largescale removal of riparian trees was undertaken during the last century. This removal changed the riparian environment for many organisms and otters lost many of their resting and breeding sites in the process.

It takes a long time for wetland trees to grow and develop into sites which are suitable as otter holts, with large gnarled root systems and open spaces, and as a short-term measure the construction of artificial holts can be helpful to them. If we exclude floating and raft holts there are two basic otter holt designs that are widely used; a log-pile holt made from cut or fallen logs and brash (see Mammal News Autumn 2006) and a buried pipe and chamber holt built from breeze blocks, paving slabs and drainage pipe.

Log pile holts are easy to construct and have that nice 'made out of local materials' feel. However, they don't though tend to last long as the logs rot and the roof of brash may fall in. Properly constructed chamber holts can last decades but require the transportation of paving slabs and breeze blocks to the waterway edge, which can limit the siting of a particular holt. To be honest, the use of drainage pipe has always made me wince and leaving this in the countryside sort of goes against the grain. However, there is an alternative to the two basic otter holt designs.

Sarah Perkins, who was a predecessor of mine as the OARP Officer at Kent Wildlife Trust, had an idea for a living holt. It is made entirely out of fresh cut willow which, if constructed in winter, grows and develops in the following spring and for many, many years afterwards. This design provides a rather instant gnarled root type system and has the 'local materials' feel of the log pile holt combined with the persistence of the chamber holt.

I first built a living holt with the staff at Sevenoaks Wildfowl Reserve some years ago and just recently with the help of the Kentish Stour Countryside Project, Natural England and others, I have been involved with constructing another at Stodmarsh NNR. I am hoping that some photos and details of the living holt may be useful to all those involved with wetland management and give an alternative to the two artificial otter holt designs that tend currently to be used.

By Jonathan Bramley
Kent County Mammal Recorder & Ecological Consultant

Above: Otter

Photo by Sue Searle

Materials needed for the living holt, freshly cut willow:

- 30 stakes, each stake of around 3-4 cms in width and 1 metre long.
- 15 bundles of whips, each whip 2 metres or more in length.
- 2 or 3 small coppiced willow stems with side branches.



1 First set out or dig out the basic shape of the otter holt. In the photo above the holt outline has been dug into the soil to about 30 cms, with the excavated soil being piled up behind. The basic shape is of a large chamber with two runs.



2 The second step, which involves putting in the stakes, has already been started.



3 Step three is weaving the whips around the stakes. The stakes are all in and now the whips are being interwoven around them to form a wicker structure and give the holt strength. Note the cut end of each whip is planted and these and the stakes will grow on in the spring.



4 Step four is weaving the roof on. Three small coppiced willow stems with side branches are being planted in the centre of the chamber to divide the chamber and give some structural support to the roof which is going to be layed over.

Photos by Jonathan Bramley

5 Roof going on. Roof nearly complete and runs covered.



The living holt is an organic design and each construction will vary depending upon local circumstances such as soil type and nature of willow material available. The design is easy to modify, for example wattle and daub (mud and reed) could be used to fill in between the willow weave and over the roof and runs. Whatever, it would be great to see more of these living holts being constructed. Good luck with yours. Have fun!

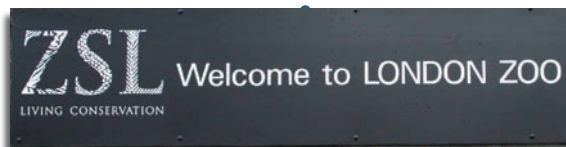
I would like to thank all the participants who helped out in the construction of the living holt pictured, especially Simon, Dave, Maria, Laura, Elena and Jason.



Autumn Symposium – The In

By Sue Searle

This year's autumn symposium, again at London Zoo, had a distinctly Antipodean feel with several speakers from Australasia as well as UK, Europe and the US. Members also had the chance to meet The Mammal Society's new Chief Executive, Callum Rankine, for the first time.



Zoo sign

Photo by Sue Searle

Invasive species, including mammals, have been arriving in the UK for centuries and many of them are harmful to biodiversity

and ecosystems. Australia and New Zealand, in particular, have suffered significant numbers of introduced mammals, each having its own impact. Some, like the stoat, being introduced to control another non-native mammal – the infamous rabbit. Unfortunately this led to bird extinctions, a story typical of many.

Mick Clout of University of Auckland gave the introductory talk outlining some of the most notable impacts caused by invasive mammals. These included impacts caused by predation and herbivory. For example, cats and foxes introduced to Australia caused the extinction of endemic marsupials and rodents. Herbivory by rabbits, deer, goats and North American beavers have all had major impacts on ecosystems where they have been introduced and left uncontrolled, including the loss of endemic plant species and competition, such as between red and grey squirrels. Habitat changes have also occurred as water buffalo have damaged flood plains and caused mimosa invasion in Australia and the rooting behaviour of pigs has led to the dispersal of invasive plants.

Invasive species can also be disease vectors. A familiar example in Britain being the grey squirrel harbouring a virus lethal to reds, while rats are hantavirus and typhus vectors. Invasive mammals can also facilitate the invasion of others, for instance goats on islands eat the plants leading to plant invasions and in the end more goats.

Alien mammals are particularly successful at establishing on islands and there are 1.6 times more on islands than continents with up to 100% establishment on oceanic islands. Strategies to control alien invaders, in descending order, should take the form of prevention (which is the preferred option), by stopping people from moving mammals around the world and even within countries. If that fails then contain and eradicate to prevent spread such as the successful eradication of coypu in England. Thirdly it is important to prevent re-invasion, but if all else fails, the last, and most costly option, is sustained control which is how we are dealing with grey squirrels both in the UK and now in Italy where they are threatening to spread across Europe.

Wholesale eradication programmes in the Antipodes

present a mixed story but one success is Campbell Island which was first settled in the 19th century. A programme to eradicate introduced species saw cattle removed in 1984, and sheep in 1991. Cats followed in the 1990s and Norway rats were eradicated in just 2 weeks in 2001 using an aerial poison drop. Now the flightless Campbell Island teal has been re-introduced and snipe have also recovered.

Huw Thomas of Defra outlined the issues in the UK. 2721 non-native species are known, 1798 of which are flowering plants with 19 having significant impacts. Out of the 60 mammal species in the UK, a third are introduced or non-native. Invasive species are listed in the top five causes of biodiversity decline. International conventions including Bern, Ramsar, EC Countdown 2010, EU Birds Directive and the Convention on Biological Diversity all have clauses to help prevent, control or eradicate invasives that threaten ecosystems, habitats and species. Defra is reviewing its strategy on non-native species and this will be finalised in March of this year leading to a change in legislation that will help with prevention, detection and surveillance.

Glen Saunders from the Vertebrate Pest Research Unit in Australia outlined some of the massive problems caused, in his country, by various non-native mammals including foxes, feral cats, dingos, mice, feral pigs and feral goats. The fox alone has been responsible for the extinction of 20 species and has left another 43 vulnerable. He outlined some of the methods used, but mainly spoke about how the eradication was managed in terms of cost (\$11 billion since the 1990s), best practice, humane methods of killing, monitoring populations and how varied the methods used have to be for each species – 50 species have Codes of Practice for humane ways of killing them.

Bringing us back to the UK, Peter Lurz talked about the red/grey squirrel issue by outlining the methods used to contain red squirrels in 'safe havens' in 15 discrete reserves whilst carrying out control of greys in buffer zones and corridors leading to the red reserves. Unfortunately there are many connections to the reserves where reds are found. The difficulty in preventing grey incursion was highlighted, especially as they can happily travel over open country as well as along corridors such as wooded river valleys. Planting schemes were often found to be contributing to grey spread. Brenda Mayle of Forestry Research also spoke of grey squirrels and the damage they do in forests including bark stripping, seed and nut predation and bird predation. Methods of controlling greys, including the timing of trapping and avoiding killing non-target species are being researched and trialled while habitat management is being adjusted to reduce the vulnerability of woods.

Invasion Ecology of Mammals



Meerkats keep watch at the zoo

Photo by Sue Searle

Jeremy Searle gave a paper about the genetics of mammalian invasions. DNA testing of various mammals has revealed the tracks of mammal invasions including the original source, the number of colonisers and the time of colonisation. For instance UK hedgehogs are originally from Iberia whilst our field voles originate from the Carpathian mountains. Studies of recent colonisers show that they are low in genetic variation and therefore less adaptable. Nevertheless they can still out-compete resident species and occupy vacant niches. Colonisers can interbreed with natives and examples include domestic cats with Scottish wild cats and Sika deer with our native red deer.

The systematic successful eradication of coypu in the UK was covered by Simon Baker who outlined the methods used in the 1960s and 1980s to trap them. The final campaign in the 1980s involved 250,000 trap nights and covered the whole of East Anglia down to the Thames. Andrezej Zalewski discussed the coexistence of native and invasive predators and presented a way of predicting if a certain new species will impact on a species already present. He has found that where there is a high niche overlap, a high level of interaction (e.g. red fox and Arctic fox) and large body size, there is likely to be a higher impact on native predators. He therefore proposed that you can predict impacts on native predators by invasive predators and suggested, as an example, that if racoons colonised they would have no impact on badgers and red foxes as these species are larger, some impact on wild cats, and a high impact on pine martens.

On Day 2 Mike Boots started by outlining methods of modelling invasive diseases in mammal populations. He gave the example of red and grey squirrels and the squirrel pox virus. Models showed that competition alone was not the cause of the decline of the red squirrel but disease could explain the declines.

Paul Dolman covered the many deer species that have now become naturalised not only in the UK but also Australia, New Zealand and North America. Impacts of each species, niche overlap and effects on ecosystems as well as on our native roe and red deer were discussed. Muntjac, for instance, are found at much higher densities in the UK than in their native habitat which means that their biomass is actually 2x higher than the roe in, for instance, Thetford Forest. Deer are having an impact especially on coppiced woodlands which has a knock-on effect on woodland birds and mammals.

Introduced rodents on islands were the subject of Frank Courchamp's talk in which he covered the four main culprits of major impacts on islands – the Norway rat, ship rat, house mouse and Pacific rat. They can have a major impact on species and,

indirectly, on ecosystems, because of their adaptability and omnivorous diet. Their removal from islands can sometimes have an unfortunate side effect and trigger non-native plant invasions.

Sugoto Roy outlined the use of science to ensure that eradication programmes work. By knowing the ecology of the target species, modelling eradication programmes and population management as well as looking at field logistics and planning, it is possible to undertake successful eradications. Back to New Zealand for the next talk by John Parkes where there are 31 exotic mammal species with only bats as native mammals. Massive efforts have gone into eradication programmes with particular success on islands (NZ has 735) where immigration of new animals can more easily be controlled. The goat eradication programme in New Zealand alone has been ongoing since 1924 and has cost \$100 million so far. Applying the same methods on the mainland is not as easy and unlikely to be as cost effective.

Contraception as a control method was outlined by Dave Cowan from the UK. At least an 80% rate of infertility is needed to drive down populations of rabbits whilst a similar effect can be achieved by reducing the fertility of only 40% of wild boar. Oral delivery has been used in rabbits and grey squirrels whilst vaccinations are successful on wild boar, feral pigs, horses and white-tailed deer. Oral methods need to be species-specific and effective and are still being refined for grey squirrels at present.

The final talk by Steven Lapidge from Australia gave a flavour of the novel products and strategies used there to eradicate non-native species. Various poisons, contraceptives, lures and baits were described, but the main objective was to find effective, species-specific and humane ways of killing non-natives. By looking for the 'Achilles heel' for the different species, an effective method can generally be found. It certainly brought into sharp focus what a serious problem Australia faces.

The symposium drew to a close with a well chaired and successful question and answer session which included some interesting debate and a chance for the delegates to quiz the speakers further.

So, yet another successful and highly enjoyable programme, which was well worth attending. A chance to make new acquaintances and renew old ones as well as to meet new faces from abroad.



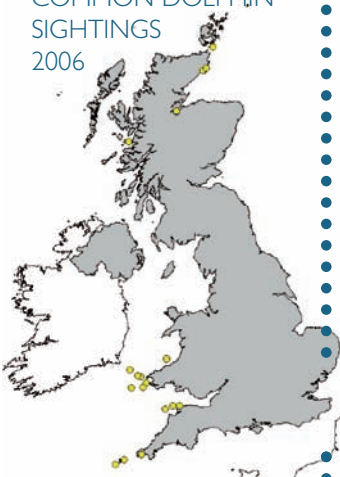
Delegates enjoying the wine reception

Photo by Sue Searle

National Whale and Dolphin

By
Hanna Nuuttila,
Sightings Officer,
Sea Watch Foundation

COMMON DOLPHIN
SIGHTINGS
2006



EXPERIENCED SEA WATCH OBSERVERS were joined by enthusiastic members of the public at more than 118 sites across the UK for National Whale and Dolphin Watch 2006.

Despite torrential rain, gale force winds and fog, the event produced some interesting data in a year which was notable for unusual sightings around the coast.

The Watch is organised annually by Sea Watch Foundation (SWF), the national marine conservation charity which monitors the status and distribution of whales, dolphins and porpoises around the UK.

Amongst the surprises were several reports of common dolphins off the east Scottish coast – a species which is not normally seen in the North Sea. Sightings of minke whales off the west coast of Scotland, where they had been conspicuously absent the previous year, were welcomed, though numbers remained lower than in former years.

Sea Watch Foundation's Scientific Director Dr Peter Evans said: "A large network of observers reporting sightings can often provide early warning of changes in distribution and status of particular cetacean species. Where possible, systematic timed watches, either from strategic points on land or offshore from a vessel, should be conducted. However, even casual sightings can be useful, and may reflect more general patterns that can then be further investigated. The annual National Whale and Dolphin Watch serves primarily to raise public awareness of our rich marine mammal fauna, but at the same time such large scale watching over a prescribed time period has helped to chart patterns in the distribution of various species each summer."

In general, 2006 was a year of surprises for cetacean watchers. As well as the much publicised plights of Marra the bottlenose dolphin, trapped but eventually freed from Maryport marina in Cumbria, and the northern bottlenose whale in the Thames in January, rare sightings during 2006 included:

Injured common dolphin in Orkney

An injured short-beaked common dolphin was sighted in Kirkwall harbour, Orkney, on 20th April by Leslie Burgher. Common dolphins are rarely seen so far north. Further reports of groups of common dolphins off north-east Scotland followed throughout the spring and summer.

Bottlenose dolphin sighted on the Fylde coast in Lancashire

Bottlenose dolphins are generally uncommon in North-west England. The animal was spotted on the 9th May by a local photographer, Phil Ashman.

Humpback whales in South West Wales

Two humpback whales were sighted during a SWF Common Dolphin Survey in the middle of the Celtic Deep, 48 km north-west from Ramsey Island, on 3rd June. Common dolphins were surfacing around the whales, seemingly following the whales' dive pattern.

Fin whale in Moray Firth

The second largest marine mammal – the fin whale – was sighted in the inner Moray Firth on the 25th July by a member of WDCC in Rosemarkie Bay from Chanonry Point, and photographed by Neil MacGregor. It is very unusual for fin whales to come so close to shore, and this one was in the shipping channel.

White-beaked dolphins in Lyme Bay

A group of seven white-beaked dolphins was seen on the 25th of July in the middle of Lyme Bay, Dorset. The animals approached the sailing boat, bow-riding for some time, allowing Phil Dickinson to take some excellent photos. Although common in the North Sea and other northern European continental shelf seas from western Ireland to Norway, white-beaked dolphins are uncommon in the English Channel.



Bottlenosed dolphins

SPECIES SEEN DURING THE NWDW 2006 (AUGUST 12-20)

SPECIES	SIGHTINGS	INDIVIDUALS
Atlantic white-sided	16	134
Bottlenose dolphin	140	611
Harbour porpoise	334	857
Humpback whale	1	1
Killer whale	2	6
Minke whale	39	45
Risso's dolphin	13	29
Short-beaked common dolphin	21	311
White-beaked dolphin	9	30
Unidentified cetaceans	19	83
Total	594	2107

Watch sightings top 2,000

Minke whale in Cardigan Bay

A juvenile minke whale was sighted close inshore in Ceredigion, off Llangranog during a SWF Cetacean Survey Training Course on 8th June. Minke whales are seldom seen within the Bay.

Sowerby's beaked whales in Moray Firth

A pair of Sowerby's beaked whales was seen in the inner Moray Firth from Fort George by Alan Airey on 22nd August. There have been very few records of live Sowerby's beaked whales in UK coastal waters.

Fin whales, St George's Channel

For the second year running, groups of fin whales were spotted in St George's Channel, west of Pembrokeshire in August by Sea Watch observers and others, giving rise to the possibility that they might be part of a population regularly visiting the area during summer months.



Bottlenosed dolphin

Northern bottlenose whales in Inner Hebrides

Three northern bottlenose whales were spotted from the ferry MV Sheerwater between Arisaig and the island of Eigg by Ronnie Dyer, an experienced cetacean observer, on 28th August. Two northern bottlenose whales were stranded on 1st September on the coast off Skegness, Lincs. Both died after rescue attempts. Another was reported on 6th September off Sunderland, entangled in fishing gear from which it struggled free.

Killer whales off Lundy, in Bristol Channel

Four killer whales, including a young calf, were sighted from the MV Balmoral travelling between Ilfracombe and Lundy on 23rd August. The sighting was reported by Chayne Hodgetts, who was conducting a cetacean watch and is the first recorded sighting of killer whales in the Bristol Channel since systematic recording began in the 1970s.

Pilot whales in Salcombe Estuary, Devon

At least 20 long-finned pilot whales were sighted 1.5 miles south of the mouth of Salcombe Estuary on 15th September. The group was seen by anglers who also reported catching large, "rugby ball size" squid, which forms part of the pilot whale's diet.

Risso's dolphins seen by divers at St Abbs Head, SE Scotland

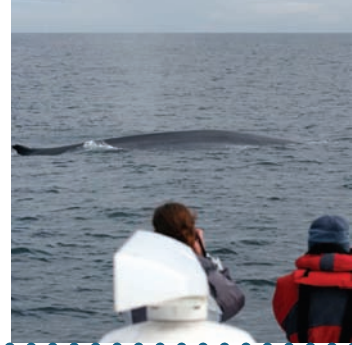
Four Risso's dolphins were seen by divers close to coastline off St Abbs, north of Berwick, on 16th September and was photographed by Master Scuba Diver Stevie O'Hare.

Sei whale in Inner Hebrides

A single sei whale was seen feeding three nautical miles west off Gob A 'Chuille in Western Ross, Highland on 16th September. The 30 ft long animal was spotted by Nick and Barry Davies of Hebridean Whale Cruises onboard the vessel Kerry and observed for an hour.

Humpback whale in Argyll

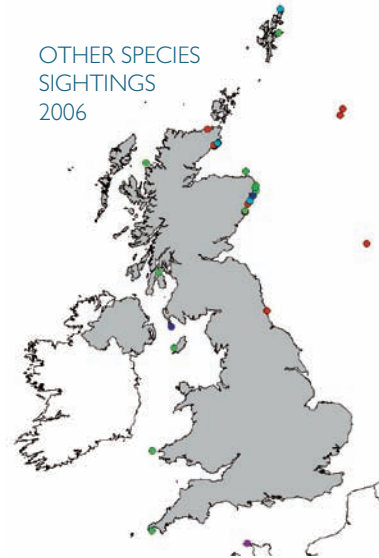
One, possibly two, humpback whales were seen for several days between Blairmore and Hunter's Quay at the head of Loch Long and the entrance to Holy Loch, near Dunoon, Argyll in October. A very large adult whale (estimated length 18 metres) was slowly swimming and surfacing in the area, very close to shore. The last report of the whale was on 13th October.



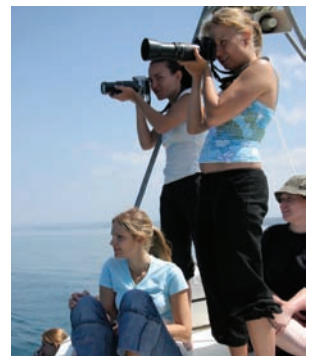
Above: Fin whale seen from boat

All photos by Seawatch Foundation

OTHER SPECIES SIGHTINGS 2006



- Atlantic white-sided dolphin
- Humpback whale
- Killer whale
- Risso's dolphin
- White-beaked dolphin



Boatwatch

NWDW

National Whale and Dolphin Watch 2007 will be held from 23rd June – 1st July and schools across the country will be encouraged to take part.

For more information on recent cetacean sightings and the work of Sea Watch Foundation please visit www.seawatchfoundation.org.uk.



book review

**Reviewed by
George Bemment**



Going, Going, Gone?

Animals and plants on the brink of extinction and how you can help.

Editor Malcolm Tait, 2006

**Think Publishing.
ISBN-13: 978-1-84525-027-0**

GOING, GOING, GONE? is an interesting and highly commendable book. Its premise – as the rather long subtitle sets out – is quite simple. It lists a whole load (just under 100) of critically endangered animals and plants and then suggests what you can actually DO to help them. The danger, of course, is that by listing such a large number of seemingly doomed species the book will simply send many readers into a state of deep depression. In fact the overall effect is much more upbeat and optimistic. The book is dedicated not just to the wildlife of the world, but also “to the many people who work hard to protect it.” Thus, it is a reminder of the wealth of conservation organisations out there and the efforts that ARE being made – undoubtedly with many successes.

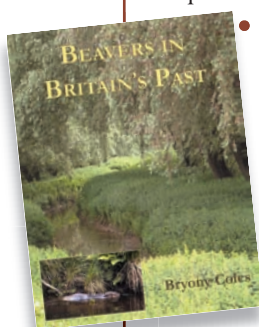
The format is simple: There is a short foreword by Lee Durrell, an introduction by Malcolm Tait, and then double page accounts of our most endangered species. Each double page includes a one-page photograph and a page of text. The photographs are particularly striking. The text pages are in three sections – several brief paragraphs of general, background information, a ‘Fact Box’ and then the critical ‘What You Can Do’ box, linked to the conservation organisation campaigning for the species.

The range of species presented is impressive. This is not just an attempt to roll out the usual suspects, “well known animals such as the jaguar, lion, elephants and rhinos”, but also to highlight the large

number of obscure and unfamiliar ones. For example, there’s Gurney’s pitta, the tadpole shrimp, milky stork, Tasmanian wedge-tailed eagle and the Kipunji (few people will have heard of this one, let alone know that it’s a primate). Two species are so rare that they are only known by their scientific names – the frog *Telmatobius gigas* and the snail *Powelliphanta ‘augustus’*. Several plants are mentioned, and a few general categories sneak in – [British] ponds, the Great Barrier Reef and ‘rainforest’. Three British mammals make it into the book: Bechstein’s bat, the Scottish wildcat (championed by The Mammal Society) and the water vole.

But what CAN you do to help? In the majority of cases, mostly because these involve non-UK species, the best the conservation organisations can do is to point the reader in the direction of their web sites, and to suggest you find out more and give them ‘your support’. Presumably, the book assumes that readers will want to be selective. One foundation suggests you “be mindful that all beings, including humans, are part of the complex web of life.” Well, yes, OK but other recommendations are probably rather more helpful. The Mammal Society, for example, suggests that if you live within the wildcat’s range, neuter your domestic cat and vaccinate it annually against common viral diseases. If there were space it would also no doubt suggest taking part in local mammal surveys, (as do some other organisations), but then such information is available from the web site.

**Reviewed by
Derek Yalden**



Beavers in Britain's Past

Bryony Coles, 2006.

Oxbow Books and WARP (Wetlands Archaeology Research Project). 242 pp. £30

**Think Publishing.
ISBN 1 84217 2263**

This excellent softback book will interest anyone with an interest in the history of Britain’s countryside and its fauna. It is a very thorough review of the detailed evidence for the history of beavers in Great Britain.

The early part of the book reviews the original fieldwork undertaken in France (both Brittany and the south-east) into the signs that beavers leave of their presence (dams, lodges, drainage channels, woodstores, cut timber), interpreted from the viewpoint of an archaeologist wanting to recognise them in excavations. The recognition that much of the wood incorporated in “human” wooden structures like the Neolithic Baker Platform and the Sutton Hams trackways in Somerset had been cut by beavers prompted the examination of modern beaver-cut timber, and the re-examination of archaeological wood from other sites, not only in Somerset but in the Thames valley and the Welsh side of the Severn Estuary. Beaver dams can themselves be used as bridges, and when

the timber washes away, the mud and stones may create a useful ford.

Conventional evidence, of bones and teeth, is carefully reviewed (much of it re-located and re-examined), period by period, the place-names associated with beavers are subjected to detailed field and map-based study, and the thin documentary record is also critically re-examined. Many more skulls have been directly radio-carbon dated for this project, as have some of the gnawed timbers. Perhaps most surprisingly, some tenuous evidence for the late survival of beavers, into 18th century England, Scotland and Wales, is assembled. There is much more detail here than I was able to include in *The History of British Mammals*, and it is anyway corrected and updated; 249 English, 20 Scottish and 12 Welsh records (which might be bones, place names, or historical accounts) are detailed in the appendices. This really is an excellent scholarly review, but it is also very readable, and is well illustrated, mostly in colour, with numerous maps, photographs and diagrams.

Mammals in the News

December 2006

Yangtze River dolphin declared extinct

Following a 6 week expedition to the lower reaches of China's Yangtze River zoologists have reached the conclusion that this 'critically endangered' mammal, also known as the baiji, may now be extinct. Using optical and acoustic equipment and trained observers they were unable to find any animals in the river making this the first large aquatic mammal to become extinct since the demise of the Caribbean monk seal in the 1950s. The loss is put down to the degradation of the habitat, over-fishing, pollution and ship traffic which confounds the sonar the animal uses to find food.

October 2006

New mammal species discovered in Cyprus

The first new mammal to be discovered in Europe for 100 years was recently identified in Cyprus by a scientist from University of Durham. Genetic tests on the mouse have confirmed that it is an entirely new species. Named *Mus cypricus* or the Cypriot mouse, it has a larger head, ears, eyes and teeth than the four other modern mouse species found in Europe. This endemic mouse has been declared a 'living fossil' as its origins appear to pre-date human settlement unlike the other rodents who arrived on the island with man.

Compiled by
Sue Searle

Source: BBC NEWS

December 2006

Magnetic fields guide bats

Following studies in the US on big brown bats (*Eptesicus fuscus*) it is now believed that bats may rely on the earth's magnetic field to help navigate over longer distances. Over short distances and for foraging they use echolocation but it is now believed that they use magnetic fields to find their way home after a night of hunting or for migration. The bats were captured in a barn and exposed at dusk to an artificial magnetic field pointing east or west while other captured bats were left unexposed as a control. Equipped with radio transmitters the bats were released 20km north of their roost and followed using a small aeroplane. The control bats headed straight back to their roosts whilst the east field bats flew east and west field bats flew west. Researchers believe that this indicates that the bats have an internal magnetic compass, calibrated at sunset. Some of the bats managed to re-orientate themselves and shifted their direction to head home possibly recognizing that their compass was faulty and using some other method for returning home.

your letters

Dear Editor

Note on new General Licence for shrews

The general licence under the Wildlife and Countryside Act 1981 which permits shrews to be taken for scientific or educational purposes, or for the purpose of ringing or marking in England was re-issued on 1 January 2007 by Natural England. The new licence includes a small number of changes from last year. For example, the conditions of the licence, which are legally binding, now stipulate a maximum interval between trap inspections. We recommend that anyone planning to make use of the licence familiarises themselves with the new conditions.

The licence is available online at www.english-nature.org.uk/science/licensing/pdf/shrew_general_licence.pdf or by phoning 0845 6014523.

Regards

Matt Heydon,

Principal Specialist for Wildlife Management Regulatory Services Team - Wildlife Management & Licensing Natural, England

11 Fenlock Court, Blenheim Office Park, Long Hanborough, Oxford, OX29 8LN Tel: + (44) 01993 886551 Fax: + (44) 01993 886541 Email: matt.j.heydon@naturalengland.org.uk

Common shrew
Photo by Sue Searle





CONSULTANTS' PAGE

By
Dr Matt Heydon
Principal Specialist for
Wildlife Management
Natural England



Bat tree roost
Photo by Sue Searle

Impending changes to the habitats regulations

This spring the UK will be making significant changes to the legislation that protects our rarest mammal species, including bats, otters, dormice and all cetaceans.

In October 2005 the European Court of Justice ruled that the UK was failing to properly transpose the Habitats Directive into domestic legislation through the Conservation (Natural Habitats) Regulations 1994. The Court identified a number of weaknesses, the most significant for mammals being the inappropriate inclusion of safeguards (so-called "defences") in the Regulations against prosecution for offences in certain situations. The dwelling house defence, which permits people to exclude bats from their home without a licence, is one such defence. Another is the 'incidental result of a lawful operation' defence, which has been relied upon for many routine activities, especially in agriculture and forestry. The UK is now required to remove these defences and will also amend the defences for mercy killing and tending.

The loss of these defences will potentially increase the need for licences. However, by adjusting the

threshold of the disturbance offence and through the provision of best practice guidance we hope to minimise this burden and the risk of unintentionally committing offences.

Following the Court judgement, you will also now need a licence to possess any European Protected Species (including non-UK species such as the European beaver), whether dead or alive, and also for any derivatives (e.g. skins and skulls) if collected since 10 June 1994. (see Page 6)

The new regulations are expected to come into force in England and Wales in early May this year. People already in possession of specimens will have a further three month period of grace to obtain a licence. Similar regulations are being developed in parallel for both Scotland and Northern Ireland.

Natural England is the licensing authority for European Protected Species in England and along with Defra will be providing guidance on the changes and advice on the new licensing requirements via its website (www.naturalengland.org.uk) in the coming months. Similar provisions are anticipated in other parts of the UK.

New Defra Licences

Big changes are afoot in the Defra licensing process, now run by Natural England (in England) as you can see from the article above. At one of several meetings for consultants, convened by Natural England in January, we were told that these have come about partly because of a judgement handed down by the European Court of Justice in October 2005 and partly as a result of a general move by Natural England to make the licensing process more efficient. *(From now on, for England please read whichever of the four countries is most likely to apply to you and for Natural England read the country agency of that country. We are simply writing about Natural England as it convened the meetings at which these points were made.)*

Removal of defences

Householders with bats in their houses will no longer be able to carry out exclusions after a simple consultation with Natural England and a possible visit from a voluntary roost visitor. In future it will be necessary to obtain a licence from Natural England, which is still working on a process for managing this requirement in a sensitive way. Householders wishing to carry out maintenance works will be advised on how to avoid breaking the law.

Hitherto it has been possible for farmers and foresters, carrying out work in the countryside which did not constitute development, to

rely on the fact that the destruction of a European protected species (EPS) or its breeding site or resting place occurred "as an incidental result of an otherwise lawful operation and could not reasonably have been avoided". This defence will no longer hold and, from May 2007, much greater efforts will be expected to avoid such damage or destruction and thus prosecution. Natural England will be adjusting the threshold of the disturbance offence and giving best practice guidance in an effort to minimise this burden and the risk of unintentionally committing offences. Nevertheless, if it does prove necessary to damage or destroy a breeding site or resting place, a licence will be required from Natural England.

Changes in the Licensing Procedure

There are two major changes to the licensing procedure which should do much to speed up their issue and make their implementation more effective. One of the main reasons for delays in the issue of licences is because local planning authorities (LPAs) fail to send back their returns. There are understandable reasons for this. Development control officers are hard pressed with a growing work load and a tight deadline to meet if targets are to be hit. Consequently a multi-page questionnaire from Natural England, arriving on their desks long after a planning decision has been made on the subject property, is going to be assigned to the 'To Do' tray.

By
Michael Woods



Developers will become
Defra licence holders
Photo by Sue Searle



The North Oxfordshire Mammal Group has arrived!

THE NORTH OXFORDSHIRE MAMMAL GROUP (NOMG) was formed in December 2006 by a team of 7 ecologists. We are a small group with a passion for mammals and their conservation. We are keen, professional and determined to make this an active group with plenty to offer its members.

NOMG's objective is to collect and collate information on the mammals of North Oxfordshire. With the help of its members NOMG soon intend to begin surveying and will attempt to produce a distribution map of all county mammals.

We hope to be undertaking several mammal projects soon including work with otters, dormice, water voles, harvest mice and as many other mammals we can find in Oxfordshire.

Our professional team have a breadth of experience in working with all types of animals and conservation.

NOMG's members bring with them a wide variety of practical field skills such as small mammal trapping, radio tracking and field sign identification. We also have protected species licences for mammals like the hazel dormouse.

NOMG's geographic range is currently limited to North

Oxfordshire as we are a fledgling group with limited resources and at present all members are based in the north of the county. However, we are likely to travel further if it means having the opportunity to survey rarer species like dormice.

Getting involved

The group is open to all members of the public and regular meetings will be taking place in Banbury. No qualifications or experience are needed to join, just an interest in mammals.

The group is open to members of the public and hopefully as our member numbers grow they will provide us with further skills, experience and enthusiasm. We welcome all members and welcome any survey suggestions people may have.

Anybody wishing to become a member or looking for more information can contact NOMG on:

Email: nomg@hotmail.co.uk

Tel: 07790 907816 or 07841 461672

Website: www.nomg.co.uk

We would be delighted to hear from you and hope that you will join us in our mammal work!

By David Price and
Rebecca Watson



Small mammal trapping

Photo by Sue Searle

While the country agencies almost always turn round their assessment within the assigned 20 working days, licences are hung up on the return from the LPA. In order to short circuit this problem, in future it will be the responsibility of the applicant to submit the completed LPA form with the licence application.

The second big change is that the licence holder will be the developer and a new offence will be created of breaching licence conditions. If things happen on site, in the absence of the consultant, which contravene the terms of the licence, the responsibility is to become that of the developer. Furthermore, in future, it is intended that 1 in 20 sites will be visited and audited by the wildlife advisers, formerly with the Rural Development Service but now, of course, with Natural England. Indeed some method statements are already being assessed by wildlife advisers.

The new licence forms should be available on the Defra website from the end of June and the new licences will come into use in August. Thereafter Defra will be expecting to receive an application form, the method statement, the reasoned statement of application and the completed local planning authority questionnaire with each application. The method statement will be in two parts — a background section and a section containing information on the delivery of the mitigation. The latter part will be attached to the licence.

How to make a better licence application

Dr Tony Mitchell-Jones, from Natural England in Peterborough, took advantage of the fact that so many consultants were in one place at one time to give some useful advice on completing a successful licence application.

In future applications need to be **SMART!** that is:

- S** pecific
- M** easurable — there must be clear time scales set out in the application
- A** chievable
- R** ealistic
- T** ime Limited — licence works cannot be open ended.

Finally the mitigation needs to be Proportional to the loss (but the extra P did not fit the mnemonic!)

Tony made a plea not to be sent volumes of paper, mostly of little relevance, rather than concise applications. He is specifically seeking:

- more tables, maps and plans that can be cross referenced
- scaled plans to show proposals against what is there now
- a table showing the timetable of the works on site
- less ambiguity and 'future proofing' to avoid amendments.

Common problems tend to be:

- missing information
- poor plans
- inadequate surveys
- inappropriate working methods
- vague statements in the mitigation proposals

CONSULTANTS' LIST

From time to time The Mammal Society receives enquiries about how to find mammal consultants and has decided to compile a list, rather like that provided by the country agencies and some local authorities, simply setting out the details of members who provide consultancy services. It will not be making any recommendations or endorsing their expertise in any way. If you would like to be included on the list, please print off and complete the form on the website and send it to The Society office.