

# “The Necessary Beaver” Scottish Beaver Conference

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## Summary Report to Minister for the Environment, Climate Change & Land Reform

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**28<sup>th</sup> March 2015**

**Dunkeld Hilton, Perthshire, Scotland**

**Hosted by the Scottish Wild Beaver Group**

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# Executive Summary

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The Necessary Beaver Conference took the 110 delegates on a very interesting journey through the world of beavers, highlighting many aspects of this fascinating topic. Delegates discovered:

- Beavers existed in Perthshire for thousands of years before they were hunted to extinction, leaving mysterious remains in Loch Tay over many centuries to the bafflement of underwater archaeologists excavating the remains of crannogs.
- A native woodland expert is of the opinion there is enough existing riparian woodland to sustain a growing population of beavers in Tayside, and suggested it is possible that one of our native trees Aspen may in fact need beavers to reproduce and spread effectively.
- Research already carried out in the Tayside area shows there is potential for further academic study on beaver impacts to the ecosystem in the UK.
- News from the Netherlands shows how beavers play a vital part in their river restoration project to protect land from flooding and create natural habitats.
- From a unique example at Knepp Castle Estate in Sussex, we saw the potential for private land management in the UK to use economically-viable process-led rewilding as an alternative to farming, forestry, sport or development - in a way that could easily incorporate and benefit from the presence of beavers.
- There is potential for beavers to bring ecotourism incomes to the countryside with an example of the beaver tours already being run successfully in the Blairgowrie area.
- The Devon beaver reintroduction project is developing data on the ecosystem services provided by beavers which will help other reintroduction proposals. The Welsh project is still at planning stage and they are looking with interest at the outcome of the Scottish and Devon projects for guidance on their next steps
- The RSPB illustrated the role that beavers are already playing on a renowned Scottish Nature Reserve, together with the mitigation techniques used to ensure the site meets its agreed objectives when beavers have other ideas of how to manage the reserve.
- Our American colleague gave examples of highly successful practical mitigation measures available where there is potential beaver / human conflict
- Sir John Lister-Kaye's talked about his own experience of the great ecotourism success with beavers in his Highland Field Centre and his encouragement to move forwards with a wider reintroduction to Scotland.

While the difficulties encountered by some low ground farmers were raised by one of the farmers at the question and answer session, the overwhelmingly positive impacts of beavers and the sense of humanity's obligation to return these ingenious creatures to our waterways came across loud and clear.

Another consistent message was that expertise and mitigation solutions exist from all around the world which can minimize potential conflict and help to inform beaver management in Scotland. The turnout for the conference illustrated the great interest and enthusiasm that beavers have aroused in the public and the importance of a forward direction that takes all this into account.

# Key Points

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## **Nick Dixon – “Beavers in Archaeology”**

Dr Nick Dixon is the research director of the Scottish Crannog Centre in Loch Tay and is a Director of the Scottish Trust for Underwater Archaeology. Dr Dixon has spent the past 30 years examining crannogs and other submerged sites in Scottish lochs and shared with us the story of the Loch Tay crannogs which show evidence of beavers from the earliest Mesolithic period, some 8000 years ago, some of which raise tantalising and as yet unanswered questions.

## **Victor Clements – “Beavers and Riparian Woodlands on Tayside”**

Victor Clements is a woodland advisor based in the upper Tay catchment who concentrates on farm woodlands, management of deer and river conservation projects. Over the past four years he has been observing the effects of the local wild beavers on the riparian woodland and how beavers have created classic riparian woodland edge with tree regeneration providing low canopy growth nearer the water edge, fostering bird, fish, and insect life. He suggested that the reason Aspen trees are rare in Scotland compared to other countries may be due to the lack of beavers, as the beaver appears to play a key role in Aspen reproduction.

In addition, the beavers appear to target some non-native species of trees such as sycamore and beech trees. When beavers target native tree species, in general these are adapted to being gnawed or felled by beavers and coppice very effectively (e.g. willows) providing diverse structure and habitat, and enhancing biodiversity.

## **Nigel Wilby / Alan Law “Beavers and Biodiversity”**

Alan completed his PhD in Freshwater Ecology at Stirling University and studied beaver impacts in Scotland and Sweden. He showed beavers have direct impacts on their environment such as the species they consume, and indirect impacts with their dam building. From their studies at Bamff Estate they found a tenfold increase in species richness from beaver habitat. He stressed the need to ask the right questions when investigating biodiversity and that using different indicators may influence results in a particular way.

## **Pieter Noordanus “Relevant Lessons from Beavers and Farming in the Netherlands”**

Pieter is a land agent from The Netherlands who works at providing solutions for farmers and landowners when conflicts arise in the multimillion ambitious “Room for the River” plan that the Government has implemented to combat the threat of flooding that endangered millions of people in The Netherlands, much of which lies under sea level. Beavers, reintroduced in 1988, are one of the challenges that the Dutch have to understand and work with while implementing these flood prevention measures.

This pioneering landscape scale approach to farmland and water management works along with the beaver, harnessing the natural engineering capabilities of the beaver towards the goal of flood prevention. This natural engineering work which would be extremely costly to create with

machinery the beaver completes free of charge - slowing the river down which helps to prevent damaging flash flooding downstream, as well as creating a better habitat for wildlife.

Specialist trained land stewards manage the whole picture by working with the farmers to find the best solution to issues, including the removal of the beavers by non-lethal trapping methods for relocation if necessary - however practical mitigation methods are practiced in the first instance as this has been proved to be most effective.

### **Sir Charles Burrell – “Practical Rewilding on the Knepp Estate in Sussex”**

Sir Charles shared his pioneering Knepp Wetland Project in Sussex, where a process led project has turned around a highly intensive uneconomic arable estate into a naturalistic grazing area which provides organic pasture fed beef, venison and pork while benefiting local wildlife. This has led to an explosion in biodiversity with the estate providing habitat to many rare species of insects and plants, also providing scientists with an opportunity to study the ecology of the species. Because the estate has no beavers, they had to replicate the work with machinery that beavers do naturally to create the wetlands on an adequate scale for biodiversity.

### **Bob Smith – “Beavers and Ecotourism”**

Bob has been running an education programme round the local schools and organisations which was set up by SWBG and believes education is a key concept for the future. He also runs beaver tours on the local River Ericht in north east Perthshire to show locals and visitors the beavers and other wildlife visible on the river. Since 2013 he has taken over 200 people on tours, 77% which are non-resident in the area – including well known faces such as Ellie Harrison who interviewed Bob for Countryfile. 93% of the visitors spent money locally in Blairgowrie and many of the visitors travelled long distances to Perthshire specifically to see the beavers. The eco-tourism potential of the beavers is substantial and if the above example was to be extrapolated with a beaver reintroduction, the beavers would be a huge benefit to the tourist industry in Scotland.

### **Liz Halliwell – “Welsh Beaver Project”**

Liz Halliwell is a mammal ecologist who provides specialist advice to Natural Resources Wales on the conservation and management of terrestrial animals including beavers. The Wildlife Trusts in Wales are leading the Welsh Beaver Project and developing a reintroduction proposal for beavers. Liz presented an up to date review of this process, including the identification of suitable catchments, stakeholder consultation and the need for various fact finding trips to other countries with beavers, including Scotland.

### **Uwe Stoneman – “Beavers and Wetland Management”**

Uwe is the RSPB Tayside Reserve’s manager and is the first RSPB manager to have beavers living on a reserve. The beavers have presented some challenges on Kinnordy Reserve with their own management plan - which unfortunately differs somewhat from the RSPB management plan. Kinnordy Reserve is a highly designated site and Uwe has a legal obligation to maintain particular areas of habitat for various rare species. Nevertheless, solutions have been found to enable both the beaver and the RSPB to be satisfied, and working with the beaver was found to be the most effective management strategy.

### **Peter Smith – “Beavers and Ecosystem Services”**

Peter is the founder of the Wildwood Trust and is an ecologist with many years' experience in assessing environmental impacts and educational restoration ecology. Poor land and water management has created major flooding disasters such as Boscastle in 2004 and forecasts of the effects of climate change show that flooding is a major concern for the future.

Alternative test strategies to manage rivers were successful in Northumberland but proved costly to make all the changes and structures that beavers provide for nothing. Fluvial morphologists are needed to map rivers in order to decide where it is best to allow flooding economically and where best to prevent flooding and keep farmland.

In contrast to other countries that have salmon and beavers coexisting successfully, in Scotland there has been concern of the impact of the beaver on the fishing industry. Peter explained the real concern is not that the beaver will destroy habitat – in fact beavers create better habitat for fish – the concern is that the beaver may move this ideal habitat along the river and out of the current owners land.

Peter told of how the implementation of a compensation strategy is essential to the return of the beaver, to compensate the farmers and landowners who lose out by sharing the financial gain by those who benefit from the beaver's return – the rental property value of the properties in a previously flood risk area.

### **Mark Elliot – “Devon Wildlife Trust Beaver Projects”**

The Devon Wildlife Trust is leading two beaver projects monitoring the effects of a beaver reintroduction. A captive trial has been running since 2010 in the uplands of North Devon and has shown a major increase in amphibians and capture of harmful chemicals such as nitrates and phosphorus by beaver dams. In addition the baseflow of the water and constant supply of water provided by the beaver habitat is beneficial in periods of drought, and the extra storage capacity helps prevent major flooding events further downstream in times of heavy rainfall.

Mark also told us of the legal challenge the DWT and Friends of the Earth launched against DEFRA to prevent the removal of the wild beavers and grant a licence to study the effects of beavers on an English lowland river. All beavers have been tested clear of disease and they hope, like Scotland, to provide evidence to assist the national understanding of beaver reintroductions.

### **Mike Callahan – “Mitigation for Beavers”**

Mike is the owner and operator of a company in north eastern United States that specialises in the humane and long term resolution of beaver-human conflict. Beavers were reintroduced to Massachusetts in 1932 and when conflicts arose the solution had previously been to trap and relocate. However as the population grew this became less effective as others simply moved into the vacated space and the problem reoccurred.

An alternative cost effective long term solution is now practiced to work with beavers to allow them to co-exist with humans by using simple engineering designs to prevent the water level from

rising high enough to cause localised problems in farmland and roads. These solutions have proved to have a 90% success rate over a 7 year period in a state that has 80,000 – 100,000 beavers.

Mike also added that beaver-related studies in the States with the endangered Pacific salmon have been overwhelmingly positive to the extent that many states have implemented programmes to increase beaver numbers in order to benefit the salmon.

### **Sir John Lister-Kaye – “Round Up and the Future”**

Sir John gave a summary of the early years of campaigning for beaver reintroduction in Scotland and the origin and background to the Tay wild beaver population. He then went onto to describe the enormous benefits his beaver demonstration project in the Highlands has shown for biodiversity and educationally to the volume of people who have visited the Aigeas Field Centre.

Sir John congratulated the local farmers and landowners who attended the conference to talk about their worries and warned that Scotland needs to get its act together on mitigation methods as soon as possible to work together with farmers worried about beaver issues.

### **Friends of the Earth update**

A quick update was given to the audience by Alistair Cameron from Friends of the Earth who explained how they made a successful legal challenge under the European Habitats Directive to support the Devon Wildlife Trust’s bid to allow the wild beavers to remain in the River Otter and for their impact to be monitored and studied.

### **Panel Q&A Session**

Questions were answered from the audience on a range of subjects including a statement from a farmer with beavers on low lying land in Strathmore outlining his worries about his land and also a nearby golf course that had some trees cut down by beavers in the previous week. He was advised by the panel how to combat this issue by a simple solution to protect individual trees that is completely effective.

His concerns regarding potential flooding were acknowledged and advice from the delegates was that non-lethal mitigation methods are available and are an effective long term solution. Both Pieter Noordanus from the Netherlands and Mike Callahan from the USA stressed the need to learn from experienced countries and not to try and “reinvent the wheel”.

The panel stressed that it is essential that effective mitigation and compensation strategies are implemented in the reintroduction of the beaver, and that the beavers can help improve the Scottish landscape for the benefit of all, saving the public purse millions of pounds in flood prevention management costs.

# Delegate List

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Alan Brown	Clyde Muirshiel Regional Park
Alan Carter	Reforestation Scotland
Alan Law	University of Glasgow
Alan Ross	SWBG
Alan Watson Featherstone	Trees for Life
Alasdair Cameron	Friends of the Earth / Personal
Alicia Leow-Dyke	Aigas Field Centre
Andrea Hudspeth	
Andrew Thompson	SWBG
Annette Grewar	Peter C Grewar (Potatoes) Limited
Becky Priestley	Trees for Life
Ben McKeown	
Bob Smith	SWBG
Caroline Walker	
Catherine Lloyd	Tayside Biodiversity Partnership
Charlotte Fleming	
Christine Reid	Natural England
Claudia Wegner	Mycologist/Artist
Dallas Seawright	
David Gibbon	
David Renwick Grant	SWBG
Dorothy Bruce	
Dot Mehan	
Dr Chantel Davies	
Dr David Hetherington	Cairngorms National Park Authority
Dr Elaine Gill	Natural England
Dr Liz Halliwell	Natural Resources Wales
Dr Nonie Coulthard	
Dr Samuel Bridgewater	Clinton Devon Estates
Eddie Anderson	
Eddie Palmer	SWBG
Eleanor Moodie	
Dr Ellie Stirling	SWBG
Emma Rawling	
F. Martynoga	
Felicity Martin	Catkin Press
Frances Gillespie	

Gareth Mason	Forestry Commission
Georgie Brown	Forestry Commission
Gideon Rutherford	
Gillian Tawse	
Graeme Findlay	Forestry Commission
Hayley Douglas	Clyde Muirshiel Regional Park
Helen Dickenson	Royal Zoological Society of Scotland
Iomhair Fletcher	
Isabel Glasgow	
Jacky Robinson	
James Nairne	
Jason Logan	Beyond Adventure Ltd
Jay Mackinnon	Edinburgh Napier University
Jean Oudney	SWBG
Joe Greenlees	Eadha Enterprises
John Keith	
John McIntosh	Angus Council
Karen Coupar	
Kelsey Wilson	RZSS
Kieran Goodlet	Edinburgh Napier University
Lady Burrell	Knepp Castle Estate
Leona Graves	
Leonie Alexander	The Wildlife Partnership
Les Bates	
Lindsay Mackinlay	National Trust for Scotland
Louise Ramsay	SWBG
Lucy Sarah Gray	
Maggie	
Mark Elliott	Devon Wildlife Trust
Mark Golding	
Mark Johnson	Atholl Estates Ranger Service
Martin Habets	
Michael Callahan	Beaver Solutions LLC
Nick Dixon	The Scottish Trust for Underwater Archaeology
Nigel Ross	Forest Art
Nigel Wilby	University of Stirling



Nils Schoefer	Edinburgh Napier University
Patrick Stirling-Aird	
Paul Ramsay	SWBG
Paul Scott	
Peter A A Grewar	Peter C Grewar (Potatoes) Limited
Peter C Grewar	Peter C Grewar (Potatoes) Limited
Peter Livingstone	Eadha Enterprises
Peter Smith	Wildwood Trust
Phil Davies	
Pieter Noordanus	Noordanus & Partners Ltd
Polly Pullar	
Rhona Forrester	SWBG
Richard Horobin	SWT, Pitlochry & Highland Perthshire Group (chair)
Rob Coope	Forestry Commission
Robert Dewar	National Trust for Scotland
Roisin Campbell-Palmer	Royal Zoological Society of Scotland
Ron Walsh	
Rose Evison	SWT, Pitlochry & Highland Perthshire Group (policy advisor)
Roy Dennis	Highland Foundation for Wildlife
Shauna Redman	SWBG
Sheila Bates	
Sir Charlie Burrell	Knepp Castle Estate
Sir John Lister-Kaye	Aigas Field Centre
Susan Stirling-Aird	
Terry Williams	
Thomas Huxley	
Tim Fison	SWBG
Tina Ng-A-Mann	
Uwe Stoneman	RSPB
Victor Clements	Native Woodland Advice
Richard Rees	
Jenny Rees	
Dick Balharry	
Adeline Balharry	

## Useful Links

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Pieter Noordanus

<http://www.noordanuspartners.nl/>

Room for the River Project (English translation)

<http://www.ruimtevoorderivier.nl/english/types-of-measures/>

Mike Callahan

<http://www.beaversolutions.com/>

Peter Smith

<http://www.wildwoodtrust.org/>

Dr Nick Dixon

[http://www.crannog.co.uk/docs/underwater\\_archaeology/underwater\\_archaeology.html](http://www.crannog.co.uk/docs/underwater_archaeology/underwater_archaeology.html)

Victor Clements

<http://www.nativewoods.co.uk/>

Sir Charlie Burrell

<http://www.knepp.co.uk/>

Welsh Beaver Project

<http://www.welshbeaverproject.org/home/>

Devon Wildlife Trust Beaver Project

<http://www.devonwildlifetrust.org/devon-beaver-project/>

Aigas Field Centre

[http://www.aigas.co.uk/aigas\\_wildlife.asp](http://www.aigas.co.uk/aigas_wildlife.asp)

