

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Access rights: Putting law into practice

**Project Website:** <http://www.macaulay.ac.uk/socioeconomics/projects/>

**Project Coordinator:** Katrina Brown

**Contact:** Dr Katrina Brown, [k.brown@macaulay.ac.uk](mailto:k.brown@macaulay.ac.uk)

**Organisation:** Macaulay Land Use Research Institute

**Type of project:** National Research Project/ Consultancy

**Timeframe:**

**Project Description:** Aim: to understand how access rights provided by the Land Reform (Scotland) Act 2003 are implemented in practice, and on multiple institutional levels. CNP is the case study area. The cultural practices of access users (principally walkers and mountain bikers) and the Local Outdoor Access Forum are examined using a range of ethnographic techniques, including qualitative interviews, observation of meetings and mobile and video (headcam) ethnography, and Participatory Video. Findings to be disseminated Spring 2011.

**Themes:** 1. Sustainable Land Use 2. Sustainable Destination

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25 November 2010

### **ALTER-Net EU FP6 Network of Excellence**

**Project Website:** [www.alter-net.info](http://www.alter-net.info)

**Project Coordinator:**

**Contact:** Dr Anke Fischer, [a.fischer@macaulay.ac.uk](mailto:a.fischer@macaulay.ac.uk)

**Organisation:** Macaulay Land Use Research Institute

**Type of project:** European Research Project

**Timeframe:** 2004 - 2009

**Project Description:** The network as such was a huge project involving partners in 14 countries. However, as part of one of the research work packages (on public attitudes towards biodiversity management) we used the Cairngorms as a study site.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **An assessment of the economic impact of water-related recreation and tourism in the catchment of the River Spey.**

**Project Website:** n/a

**Project Coordinator:** Riddington, G

**Contact:**

**Organisation:** University of Edinburgh

**Type of project:** Regional Research Project/ Consultancy

**Timeframe:** 2003 - 2004

**Project Description:**

**Themes:** 1. Sustainable Land Use 2. Sustainable Destination 3. Sustainable Communities

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **Boulder erosion rates and their influence on apparent ages of moraines in the Cairngorm Mountains**

**Project Website:**

**Project Coordinator:** Martin Kirkbride

**Contact:** Dr Martin Kirkbride, m.p.kirkbride@dundee.ac.uk

**Organisation:** University of Dundee

**Type of project:** National Research Project/ Consultancy , NERC funded

**Timeframe:** 2007 - 2010

**Project Description:** We have dated glacial moraines in two corries using beryllium-10 method, to test whether all corrie moraines date from the Younger Dryas (Loch Lomond) Stadial, a period of glacial climate between 11,700 and 12,500 years ago. We find that some corries experienced an older glacial advance, suggesting that a more complex climate history is preserved in the glacial deposits of the Cairngorms.

**Themes:** Climate history

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25 November 2010

### Cairngorms water vole conservation project

**Project Website:** <http://www.watervolescotland.org/>

**Project Coordinator:** X Lambin

**Contact:** Professor Xavier Lambin, [x.lambin@abdn.ac.uk](mailto:x.lambin@abdn.ac.uk)

**Organisation:** University of Aberdeen

**Type of project:** National Research Project/ Consultancy

**Timeframe:** 2003 -

**Project Description:** To allow the recovery of threatened native species, innovative management strategies are required to remove invasives from large areas. We took an adaptive approach to achieve large scale eradication of invasive American mink in North East Scotland. The project was centred on the Cairngorms National Park (Scotland), with the primary aim of protecting endangered water vole populations. The project was initiated by scientists and supported and implemented through a partnership comprising a government agency, national park authority and local fisheries boards. Capitalising on the convergent interests of a diverse range of local stakeholders, we created a coordinated coalition of trained volunteers to detect and trap mink. Starting in montane headwaters, we systematically moved down river catchments, deploying mink rafts, an effective detection and trapping platform. Volunteers took increasing responsibility for raft monitoring and mink trapping as the project progressed. Within 3 years, the project removed 376 mink from 10,570km<sup>2</sup>.with the involvement of 186 volunteers. The main factor underpinning the success of this project was functional volunteer participation. The project is a reason for optimism that the tide of invasion can be rolled back on a large scale where the convergent interest of local communities can be harnessed.

**Themes:** 1. Sustainable Land Use 3. Sustainable Communities

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## Research Projects in the Cairngorms

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25 November 2010

### Cairngorm Detailed Monitoring Scheme

**Project Website:**

**Project Coordinator:** Nic Bullivant

**Contact:** Mr Nic Bullivant, [nic.bullivant@cairngormmountain.org](mailto:nic.bullivant@cairngormmountain.org)

**Organisation:** Cairngorm Mountain

**Type of project:** , Permanent monitoring scheme, regional level

**Timeframe:** 2002 -

**Project Description:** The Cairngorm Detailed Monitoring Scheme is set up by section 50 Planning Agreement to detect environmental changes to the area around Cairn Gorm as a result of the building of the mountain railway. The annual monitoring is reported to SNH and The Highland Council who are advised by independent advisers as to whether there are any changes of concern and whether the monitoring scheme is working properly. To date environmental changes have been entirely positive.

**Themes:** 1. Sustainable Land Use 2. Sustainable Destination

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## Research Projects in the Cairngorms

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25 November 2010

### Clim-ATIC

**Project Website:** [www.clim-atic.org](http://www.clim-atic.org)

**Project Coordinator:** Clive Bowman

**Contact:** Mr Clive Bowman, [clive.bowman@perth.uhi.ac.uk](mailto:clive.bowman@perth.uhi.ac.uk)

**Organisation:** Perth College UHI

**Type of project:** European Research Project

**Timeframe:**

**Project Description:**

**Themes:** 1. Sustainable Land Use 2. Sustainable Destination 3. Sustainable Communities

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **ClimATIC project**

**Project Website:**

**Project Coordinator:**

**Contact:** Dr Alexandre Gagnon, alexandre.gagnon@uws.ac.uk

**Organisation:** University of the West of Scotland

**Type of project:** European Research Project

**Timeframe:**

**Project Description:**

**Themes:** 2. Sustainable Destination 3. Sustainable Communities

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **Collaborative frameworks in land management: a case-study of wild deer in Britain**

**Project Website:** <http://www.forestry.gov.uk/fr/reludeer> and <http://www.macaulay.ac.uk/RELU>

**Project Coordinator:** Justin Irvine

**Contact:** [brenda.mayle@forestry.gsi.gov.uk](mailto:brenda.mayle@forestry.gsi.gov.uk)

**Organisation:** Forest Research

**Type of project:** , RELU sustainable land use project

**Timeframe:**

**Project Description:** As before

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **control of invasive weeds within the catchment of the South Esk**

**Project Website:**

**Project Coordinator:** Dr Marshall M halliday

**Contact:** Doctor Marshall Halliday, mmhviannahorn@aol.com

**Organisation:** Esk Rivers and Fisherey Trust

**Type of project:** Regional Research Project/ Consultancy

**Timeframe:** 2009 -

**Project Description:** Control/eradication of Ginat Hoqweed and Japanese Knotweed. After an initial survey, an erdaication plan was devised and funding approved for year1 (2010). We hope that there will be fudnihg to contiue this work as it will take at least 3-4 years to achieve the objectives.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **Cultivation to encourage natural regeneration of scots pine**

**Project Website:**

**Project Coordinator:** Colin Edwards

**Contact:** Mr Colin Edwards, colin.edwards@forestry.gsi.gov.uk

**Organisation:** Forest Research

**Type of project:** Regional Research Project/ Consultancy

**Timeframe:** 2008 -

**Project Description:** To encourage natural regeneration recruitment close to an existing seed source, and determine the effect of browsing pressure on recruitment rates.

**Themes:** 1. Sustainable Land Use

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## Research Projects in the Cairngorms

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25 November 2010

### **Cultures of Nature Conservation: Biodiversity and the Management of Pinewoods in Abernethy, Scotland, 1988-2002.**

**Project Website:**

**Project Coordinator:** Andrew Midgley

**Contact:** Dr Andrew Midgley, a.c.midgley@hotmail.co.uk

**Organisation:** Scottish Agricultural College

**Type of project:** PhD Thesis

**Timeframe:** 2000 - 2004

**Project Description:**

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Demonstration Moors project

**Project Website:**

**Project Coordinator:** Andy Maclaren

**Contact:** Mr Simon Thorp, [simon.thorp@heathertrust.co.uk](mailto:simon.thorp@heathertrust.co.uk)

**Organisation:** The Heather Trust

**Type of project:** European Research Project

**Timeframe:** 2002 -

**Project Description:** Demonstrate best practice moorland management techniques to improve stock condition, increase grouse production and improve habitat management

**Themes:**

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### ECN

**Project Website:** [www.ecn.ac.uk](http://www.ecn.ac.uk)

**Project Coordinator:** Jan Dick

**Contact:** Dr Jan Dick, [jand@ceh.ac.uk](mailto:jand@ceh.ac.uk)

**Organisation:** Centre for Ecology and Hydrology

**Type of project:** Regional Research Project/ Consultancy , regional in CNP but part of National Programme

**Timeframe:** 1998 -

**Project Description:** The UK Environmental Change Network (ECN) is the UK's long-term, integrated environmental monitoring and research programme. ECN gathers information about the pressures on and responses to environmental change in physical, chemical and biological systems ([www.ecn.ac.uk](http://www.ecn.ac.uk)). Part of study also focuses on ecosystem goods and services delivered by landscapes

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Epidemiology of Lyme borreliosis in Scotland

**Project Website:**

**Project Coordinator:** Alan Bowman and Lucy Gilbert

**Contact:** Dr Lucy Gilbert, l.gilbert@macaulay.ac.uk

**Organisation:** Macaulay Land Use Research Institute

**Type of project:** PhD Thesis

**Timeframe:**

**Project Description:** This project investigated the ecology and epidemiology of Lyme disease, and had a multi-disciplinary approach. It asked the following questions: what are the environmental determinants of the tick vector in Scottish woodlands? What is the role of small mammals and birds in the *Borrelia* transmission cycle? What are the evolutionary relationships between the different strains and genospecies of *Borrelia*? What type of person, when, and where, are most at risk?

**Themes:** disease risk

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## Research Projects in the Cairngorms

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25 November 2010

### EUROMARC

**Project Website:** [http://www.mountainproducts-europe.org/sites/Euromontana/EuroMARC\\_Project/Origins\\_and\\_methodology.aspx#](http://www.mountainproducts-europe.org/sites/Euromontana/EuroMARC_Project/Origins_and_methodology.aspx#)

**Project Coordinator:** Euromontana

**Contact:** Dr Beata Kupiec-Teahan, [beata.kupiec@sac.ac.uk](mailto:beata.kupiec@sac.ac.uk)

**Organisation:** SAC

**Type of project:** European Research Project

**Timeframe:** 2006 - 2009

**Project Description:** The main objectives of the EuroMARC project are to assess the perceptions for and interest of European consumers and retailers of mountain food products in order to find ways of adding value to these products, thus contributing to the survival and management of mountain diversity - biological, rural, cultural and economic.

**Themes:** 1. Sustainable Land Use 3. Sustainable Communities

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **experimental translocation of species in response to climate change**

**Project Website:**

**Project Coordinator:**

**Contact:** Dr Rob Brooker, MLURI

**Organisation:** MLURI

**Type of project:** National Research Project/ Consultancy

**Timeframe:**

**Project Description:** ##

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **Fish Biodiversity and Community Structure in Highland Lochs**

**Project Website:**

**Project Coordinator:** Dr. Eric Verspoor

**Contact:** Dr Eric Verspoor, [verspoor@marlab.ac.uk](mailto:verspoor@marlab.ac.uk)

**Organisation:** Marine Scotland Science

**Type of project:** National Research Project/ Consultancy

**Timeframe:** 39539 - 40633

**Project Description:** -To understand biodiversity, biomass and structuring in fish communities in Scottish Lochs and its importance to managing and developing existing and potential freshwater fisheries - To understand the structure of native fish communities and distribution of fish species populations to regulate fish movements under the new Aquaculture and Fisheries Act - To clarify local species conservation needs and loch ecosystem structure in support of advice on Gs contingency planning, and the EU Habitats and Water Framework Directives - To provide baseline information needed to understand the impact of climate change on fish communities in Scottish lochs and for assessomg and monitoring the spread of non-native species

**Themes:** 1. Sustainable Land Use

### **Foraging behaviour, ant competition and nest site selection in narrow headed ants (*Formica exsecta*)**

**Project Website:**

**Project Coordinator:** Shaila Rao

**Contact:** Jenni Stockan

**Organisation:** Macaulay Land Use Research Institute

**Type of project:** Regional Research Project/ Consultancy

**Timeframe:** 2005 - 2006

**Project Description:** Wood ants are a dominant and ecologically important component of northern coniferous forests with interactions at many trophic levels. Each species exhibits specific habitat preferences which need to be understood if conservation measures are to be successful. In Britain, the rare narrow-headed ant *Formica exsecta* has disappeared from much of its former range and is now largely restricted to the highlands of Scotland where it is found in open canopy woodland and along forest edges. Nest locale of one small and vulnerable population at the edge of its current range, were compared with those of random locations within the same habitat and with actual nests within the stronghold of the Abernethy-Glenmore complex in Strathspey. *F. exsecta* clearly exhibited preferences for the position of nest mounds in relation to light, vegetation and tree cover. Forest location was also important in determining which variables nests were affected by. This study highlights the importance of maintaining a dynamic mosaic of different-aged woodland enabling early successional species such as *F. exsecta*, with suitable areas to move to as conditions change and allowing the co-existence of all wood ant species.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **Girnock burn salmon monitoring**

**Project Website:**

**Project Coordinator:** I McLaren

**Contact:** Dr Philip Bacon, baconpj@marlab.ac.uk

**Organisation:** Marine Scotland Science

**Type of project:** National Research Project/ Consultancy

**Timeframe:** 1966 -

**Project Description:** Understanding the factors influencing the abundance and population dynamics of wild Atlantic salmon in an upland Scottish stream

**Themes:** sustainable fishery management

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Impact of N deposition on Racomitrium moss heath

**Project Website:**

**Project Coordinator:** Dr Rene van der Wal

**Contact:** Dr Rene van der Wal, University of Aberdeen,

**Organisation:** The Macaulay Institute

**Type of project:** PhD Thesis

**Timeframe:**

**Project Description:** The research has studied the impacts of atmospheric N deposition on high altitude Racomitrium moss heath, particularly on Glas Maol. It found an interactive effect of N deposition and grazing that drove a decline on Racomitrium cover and an expansion of grasses in these systems. This research has included (but not been limited to ) work that has resulted in 2 PhD theses.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Impacts on biodiversity in natural and semi-natural systems

**Project Website:** <http://www.macaulay.ac.uk/amc/>

**Project Coordinator:** Professor Alison Hester

**Contact:** Alison Hester

**Organisation:** The Macaulay Land Use Research Institute

**Type of project:** National Research Project/ Consultancy

**Timeframe:** 14/06/2006 - 31/3/2011

**Project Description:** To assist in the management of upland areas, our research is considering the relative importance of pollution climate change and management at sites ranging from the lowest moorland sites to the highest mountain peaks. We are integrating our experimental data with our understanding of the workings of the wider upland environment, allowing us to develop and recommend appropriate management actions.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **Interactions between climate and land use drivers of dynamics in Montane Scrub in Scotland**

**Project Website:**

**Project Coordinator:**

**Contact:** Diana Gilbert, d.gilbert@macaulay.ac.uk

**Organisation:** Macaulay Institute

**Type of project:** PhD Thesis

**Timeframe:** 10/01/2006 - 2010/2011

**Project Description:** The PhD project aimed to provide better information on the current populations of treeline scrub and the drivers affecting their growth and management, in order improve management guidance for existing or new populations. It focussed on *Betula nana*, *Salix myrsinites* and *Juniperus communis*, as they occur across Scotland but a substantial number of survey sites were in the Cairngorms NP, and one experiment was sited at Cairngorm Mountain.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **Market development opportunities for Food Tourism projects in Royal Deeside and the Cairngorms**

**Project Website:** [www.discoverroyaldeeside.com](http://www.discoverroyaldeeside.com)

**Project Coordinator:** John Carnie

**Contact:** John Carnie, [jcarnie@discoverroyaldeeside.com](mailto:jcarnie@discoverroyaldeeside.com)

**Organisation:** Royal Deeside and the Cairngorms Destination Management Organisation

**Type of project:** , Research consultancy

**Timeframe:** 01/12/2009 - 01/03/2010

**Project Description:**

**Themes:** 2. Sustainable Destination

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### MOORCO (Moorland colonisation)

**Project Website:** <http://www.macaulay.ac.uk/moorco/>

**Project Coordinator:** Ruth Mitchell

**Contact:** Dr Ruth Mitchell, [r.mitchell@macaulay.ac.uk](mailto:r.mitchell@macaulay.ac.uk)

**Organisation:** The Macaulay Landuse Research Institute

**Type of project:** Regional Research Project/ Consultancy

**Timeframe:** 2003 -

**Project Description:** Aim: Research on how an increase in native woodland cover on moorland drives changes in ecosystem properties and functions. Method: We have long term sites within the Cairngorms National Park where birch and pine trees have been planted on open heather moorland with and with out grazing. We have studied the impact of birch and pine colonisation on moorland on a range of biological groups and ecosystem processes including: ground vegetation, soil fauna, soil microbial community, soil chemistry, nutrient cycling soil water and carbon storage. Results: When birch colonises heather moorland it has been shown to drive changes in the plant community, the soil fauna and the soil chemistry. The depth of the soil organic horizon, its moisture content and percentage carbon were all smaller under the birch than under the heather. Concentrations of available phosphorus and mineralizable- nitrogen were significantly greater in the soil under birch than under heather. Decomposition was faster in the birch than in the heather plots. The abundance and species richness of soil mites was significantly greater under the birch than under the heather. The soil microbial community also changed with an increase in species richness and an increase in amount of bacteria present relative to fungi under birch compared to heather.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **Narrative based evaluation of health walks**

**Project Website:**

**Project Coordinator:** Alan Melrose, Walk Deeside

**Contact:** Lucy Johnston, [lucyjohnston@tesco.net](mailto:lucyjohnston@tesco.net)

**Organisation:**

**Type of project:** Regional Research Project/ Consultancy

**Timeframe:**

**Project Description:**

**Themes:** 3. Sustainable Communities Use of the outdoors for health improvement, volunteering

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### North Hunt

**Project Website:** [www.north-hunt.org](http://www.north-hunt.org)

**Project Coordinator:** Regional: Scott Newey

**Contact:** Contact for over all project; Prof Sami Kurki ([sami.p.kurki@helsinki.fi](mailto:sami.p.kurki@helsinki.fi)), Ruralia Institute, University of Helsinki, Finland Regional/Scottish Contact: Scott Newey ([s.newey@macaulay.ac.uk](mailto:s.newey@macaulay.ac.uk)), Macaulay Land Use Research Institute, Scotland

**Organisation:** The Macaulay Land Use research Institute

**Type of project:** European Research Project

**Timeframe:**

**Project Description:** The overall objective of the project is to support the development of sustainable hunting tourism that will diversify the economic activity of peripheral regions in Northern Europe. Specifically: 1. Develop and enhance sustainable and competitive national and transnational business concepts, based on hunting cultures of Northern Europe. 2. Develop the operational environment of hunting tourism by reducing obstacles for entrepreneurship and lowering entry-thresholds for start-up companies in the sector, without jeopardising ecological and social sustainability of hunting. 3. Strengthen the co-operation between different stakeholders in developing hunting tourism nationally and transnationally. 4. Strengthen the connections between the hunting and tourism sectors nationally and transnationally. 5. Evaluate the possibilities for cross-country co-operation to develop a 'Northern brand' for sustainable hunting tourism. 6. Create and analyse knowledge required for directing future hunting development in the Northern periphery area.

**Themes:** 1. Sustainable Land Use 2. Sustainable Destination 3. Sustainable Communities

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Northern ToSIA

**Project Website:** <http://www.forestresearch.gov.uk/fr/INFD-82XHUD>

**Project Coordinator:** Marcus Lindner

**Contact:** Ms Stefania Pizzirani, [stefania.pizzirani@forestry.gsi.gov.uk](mailto:stefania.pizzirani@forestry.gsi.gov.uk)

**Organisation:** Forestry Commission

**Type of project:** European Research Project

**Timeframe:** 2008 - 2011

**Project Description:** The recently completed EFORWOOD project, funded by the EU Sixth Framework Programme, made great strides in the creation and associated methodology behind a flexible decision support tool called ToSIA (Tool for Sustainability Impact Assessment) (Lindner et al. 2009). Päivinen and Lindner (2008) established a concept of how the impacts of various activities on sustainability could be assessed within a FWC. The Northern ToSIA project, a follow-up to Eforwood and which is supported by the EU's Northern Periphery Programme, is focussed on developing tools for assessing the sustainability of forestry-based activities in rural areas of northern Europe. The Scottish case study, one of four formed within the project, is based on Inshriach Forest within the Cairngorms National Park. The case study examined potential management changes in the forests and demand from industry. The impact of these changes on the sustainability of the FWC was then evaluated.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **Nothern Tosia**

**Project Website:** [www.northerntosia.org](http://www.northerntosia.org)

**Project Coordinator:** Marcus Linder (EFI)

**Contact:** Mike Smith, [mike.smith@forestry.gsi.gov.uk](mailto:mike.smith@forestry.gsi.gov.uk)

**Organisation:** Forest Research

**Type of project:** Regional Research Project/ Consultancy

**Timeframe:**

**Project Description:** Northern ToSIA investigates options for improving the sustainable use of forest resources in selected regions of the Northern Periphery in Finland, Sweden, Scotland and Norway. The investigation will be done by using an innovative sustainability impact assessment tool, ToSIA (Tool for Sustainability Impact Assessment). The improved tool will be the product and services delivered by Northern ToSIA. This tool will be used with the applications as part of the regional development and corporate social responsibility reporting in the companies. The tool could be a decision support system for decision makers in the companies and the regions.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Participation and Governance in Spatial Planning

**Project Website:** <http://www.programme3.net/rural/rural38governanceSpacialPlanning.php>

**Project Coordinator:** Kirsty Blackstock

**Contact:** Kirsty Blackstock [k.blackstock@macaulay.ac.uk](mailto:k.blackstock@macaulay.ac.uk)

**Organisation:** Macaulay Land Use Research Institute

**Type of project:** National Research Project/ Consultancy

**Timeframe:** 2006 - 2011

**Project Description:** Evaluation of the processes of developing and implementing the Cairngorms National Park Plan. Looking at approaches to integrated planning and management of protected areas within the framework set out by the legislation for Scottish National Parks. The National Park Plan sets out multiple aims which are delivered through partnership working, with CNPA as an 'enabling' organization.

**Themes:** stakeholder participation; governance

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Participation and Governance in Spatial Planning

**Project Website:** <http://www.programme3.net/rural/rural38governanceSpacialPlanning.php>

**Project Coordinator:** Kirsty Blackstock

**Contact:** Dr Kirsty Blackstock, [k.blackstock@macaulay.ac.uk](mailto:k.blackstock@macaulay.ac.uk)

**Organisation:** Macaulay Land Use Research Institute

**Type of project:** National Research Project/ Consultancy

**Timeframe:** 01/04/2006 - 01/03/2011

**Project Description:** The Cairngorms National Park Authority and the Macaulay Institute are working together to evaluate the process of developing the National Park Plan and its implementation. The Cairngorms National Park requires a new approach to planning and management that integrates many different issues; works with many different partners in delivering the desired outcomes; and takes account of issues at the local, national and international level. The research will help the Park Authority work more effectively with their partners to deliver policies that are joined up, effective, efficient and equitable.

**Themes:** 1. Sustainable Land Use 2. Sustainable Destination 3. Sustainable Communities

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### PhD - Multifunctional forestry management and policy in the Cairngorms region

**Project Website:**

**Project Coordinator:** Rob Mc Morran

**Contact:** Dr Rob Mc Morran, robert.mcmorran@perth.uhi.ac.uk

**Organisation:** Perth College-UHI

**Type of project:** PhD Thesis

**Timeframe:** 2004 - 2007

**Project Description:** ABSTRACT Scottish forestry policy promotes integrated multifunctional forestry and continued forest expansion, and the private forestry sector is key to achieving these goals. However, a variety of factors can constrain multifunctional forestry, particularly in upland areas. Management objectives for private forests are also not always widely known and the potential impacts of government policy, and particularly conservation designations, on the delivery of multifunctional forestry have not been explored. Furthermore, the effects of landownership on forest management are unclear. The key aim of this research was to evaluate how forests and woodlands in the Cairngorms are being managed, and to determine the main constraints and opportunities to the further application of a multifunctional approach to forest management in the region at various scales. The research incorporated GIS analysis, a postal questionnaire survey and semi-structured interviews. A typology was developed which identified three key management themes: sustainable multifunctional management; restricted functionality forestry; and dual function management. Forest owner preferences, economic concerns, government policy and the wider land use context all influence forest management. No consistent relationship was evident between specific types of landownership and forest management functionality. A link was apparent between species and structural diversity and forest multifunctionality. Overall, 'social' objectives were relatively weak, particularly for private forests, while 'environmental' objectives were consistently strong and 'productive/economic' objectives varied in importance. The themes of constraint and opportunity were: spatial fragmentation and integration; forestry markets; bureaucracy and policy integration; public pressure and public support; and unpredictability and forest resource resilience. Many constraints result from temporal, spatial and organizational scale mis-matches between social and natural systems. The matching up of scales at the management, organizational and market levels and the treatment of forests as complex social-ecological systems is recommended. Further recommendations include: further land management integration; increased policy regionalization; timber market localization; and enhanced long-term planning.

**Themes:** 1. Sustainable Land Use

### Rarity and conservation of *Melampyrum sylvaticum*

**Project Website:**

**Project Coordinator:**

**Contact:** Dr Sarah Dalrymple, s.e.dalrymple@abdn.ac.uk

**Organisation:** University of Aberdeen

**Type of project:** PhD Thesis

**Timeframe:**

**Project Description:** *Melampyrum sylvaticum* is a rare annual species of upland deciduous woodland that has undergone a decline of 84 % from its former British range. In response to its endangered status, a Species Action Plan was produced with the aims of protecting existing populations from further decline, and creating five new populations of greater genetic diversity. This project aimed to identify and fill gaps in our knowledge of the species to meet the aims of the Species Action Plan. A habitat description indicated that the species' range was not limited by habitat availability. Instead, the current distribution was explained by historic range contractions from which *Melampyrum sylvaticum* could not recolonise suitable habitat. The inability to colonise is due to a lack of dispersal mechanisms which in addition to preventing emigration to favourable habitat, also causes density dependent mortality within existing populations. The isolation then impacts on the populations by reducing genetic diversity and fitness. Climate change will further reduce the viability of the species in Britain by decreasing the amount of suitable habitat, and due to poor dispersal and genetic impoverishment, *M. sylvaticum* will not be able to track range shifts or adapt to new climatic regimes which result from global warming. Recommended management interventions include artificial seed dispersal over very small scales at existing populations, and (re-) introductions to suitable habitat patches. The latter recommendation has already been acted upon using an experimental approach. The outcomes of this recovery programme will be used to inform future management of *Melampyrum sylvaticum* in order to increase its ability to cope with an uncertain future.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### REFRESH

**Project Website:**

**Project Coordinator:** Dr Martin Kernan

**Contact:** Professor Bill Slee, b.slee@macaulay.ac.uk

**Organisation:** Macaulay Land Use Research Institute

**Type of project:** European Research Project

**Timeframe:** 2010 - 2014

**Project Description:**

**Themes:** 1. Sustainable Land Use 3. Sustainable Communities

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **Sustainable Estates for the 21st Century**

**Project Website:** <http://www.perth.ac.uk/specialistcentres/cms/activities/Pages/SustainableEstates.aspx>

**Project Coordinator:** Professor Martin Price

**Contact:** Ms Jayne Glass, [jayne.glass@perth.uhi.ac.uk](mailto:jayne.glass@perth.uhi.ac.uk)

**Organisation:** Perth College UHI

**Type of project:** PhD Thesis

**Timeframe:** 2007 - 2010

**Project Description:**

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **Sustainable tourism on the Glenlivet Estate; an investigation of visitor actions and beliefs regarding the environment**

**Project Website:**

**Project Coordinator:** Alicia Anne Prekoski

**Contact:** Miss Vicky Hilton, [vicky.hilton@thecrownestate.co.uk](mailto:vicky.hilton@thecrownestate.co.uk)

**Organisation:** The Crown Estate

**Type of project:** Masters Dissertation

**Timeframe:** 2003 - 2003

**Project Description:** This dissertation records the conduct and results of the Glenlivet summer 2003 visitor survey. The 2003 survey was expanded to enable the researcher to investigate not only the opinion of visitors to the Glenlivet Estate regarding the provision of tourist services, but additionally visitor knowledge of and attitude towards the concept of sustainable tourism. The results of the survey have been considered and presented, incorporating suggestions and recommendations where appropriate.

**Themes:** 2. Sustainable Destination

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Visitor experience at CML

**Project Website:**

**Project Coordinator:**

**Contact:** Dr. Peter Varley, peter.varley@lochaber.uhi.ac.uk

**Organisation:** Lochaber College UHI

**Type of project:** Regional Research Project/ Consultancy

**Timeframe:**

**Project Description:** I conducted research and have produced a paper on the nature of the visitor experience in and around the Cairngorm Mountain Limited site. Conclusions centred upon the significantly de-sensitised, ocular, contained nature of the funicular ride and attendant attractions. Suggestions were to enable a more engaging, embodied and 'childlike' i.e.(emotionally authentic) experience for visitors to the area.

**Themes:** 1. Sustainable Land Use 2. Sustainable Destination 3. Sustainable Communities

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Wildness in Cairngorm National Park

**Project Website:**

**Project Coordinator:** Matthew Hawkins

**Contact:** Steve Carver

**Organisation:** University of Leeds

**Type of project:** Regional Research Project/ Consultancy

**Timeframe:** 2007 - 2008

**Project Description:** Developing map of wildness for CNP

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Does supplementary feeding of mountain hares increase survival and fecundity

**Project Website:** <http://www.macaulay.ac.uk/hares/>

**Project Coordinator:** Scott Newey

**Contact:** Dr Scott Newey, [s.newey@macaulay.ac.uk](mailto:s.newey@macaulay.ac.uk)

**Organisation:** The Macaulay Land Use research Institute

**Type of project:** , National Environmental Research Council Small Research Project

**Timeframe:** 09.01.2005 -

**Project Description:** Please see project web pages and: Using PIT tag technology to target supplementary feeding studies., Newey, S.; Allison, P.; Thirgood, S.; Smith, A.; Graham, I., (2010) *Wildlife Biology*, 15, 405-411.(<http://dx.doi.org/10.2981/08-083>) Population and individual level effects of over-winter supplementary feeding mountain hares., Newey, S.; Allison, P.; Thirgood, S.; Smith, A.A.; Graham, I.M., (2010) *Journal of Zoology*. Published online.(<http://dx.doi.org/10.1111/j.1469-7998.2010.00728.x>)

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Effect of elevation on tree growth

**Project Website:**

**Project Coordinator:** Colin Edwards

**Contact:** Mr Colin Edwards, colin.edwards@forestry.gsi.gov.uk

**Organisation:** Forest Research

**Type of project:** Regional Research Project/ Consultancy

**Timeframe:** 2010 - 2011

**Project Description:** Looking at the effect of climate change on the early (juvenile) growth of scots pine seedlings by using dendrochronology on recent recruitment and mature trees in the same area. No results to report yet.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **FASMOP - Focusing Atlantic Salmon Management on Populations**

**Project Website:**

**Project Coordinator:** Dr. Eric Verspoor

**Contact:** Dr Eric Verspoor, [verspoor@marlab.ac.uk](mailto:verspoor@marlab.ac.uk)

**Organisation:** Marine Scotland Science

**Type of project:** National Research Project/ Consultancy

**Timeframe:** 39934 - 40848

**Project Description:** Understanding of the structuring of Atlantic salmon stocks within rivers into breeding populations is essential for focusing local management and stock assessment on breeding populations, the fundamental biological units which underpin recruitment and their character. In so far as different populations are associated with different parts of river catchments, they may be differentially impacted by factors such as habitat change, or their returning adults may be differentially exploited. Thus they will be differentially impacted and management refined to address their individual conservation needs and to optimise their economic exploitation. Given generally declining salmon stocks and the cultural and economic value of salmon fisheries to Scotland, there is an imperative to optimise management. At the heart of this process must be a specific focusing Atlantic salmon management on populations. The purpose of the project is to provide local, catchment specific insights for informing local management for catchments across Scotland.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **Incentives for land managers cooperation for the delivery of environmental services at the landscape level**

**Project Website:**

**Project Coordinator:**

**Contact:** Dr Alessandro Gimona, a.gimona@macaulay.ac.uk

**Organisation:** MLURI

**Type of project:** PhD Thesis

**Timeframe:**

**Project Description:** detailed interviews of stakeholders coupled with behavioural economics experiments with land managers

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### INTERACT

**Project Website:** New project so does not yet have one

**Project Coordinator:** Jan Dick

**Contact:** Dr Jan Dick, jand@ceh.ac.uk

**Organisation:** Centre for Ecology and Hydrology

**Type of project:** Global Research Project

**Timeframe:** 11.01.2010 - 2014

**Project Description:** A key objective is to offer researchers access to infrastructures via the EU Transnational Access scheme.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Landscape Ecology and Conservation

**Project Website:** n/a

**Project Coordinator:** Phil Baarda SNH

**Contact:** Mike Smith, [mike.smith@forestry.gsi.gov.uk](mailto:mike.smith@forestry.gsi.gov.uk)

**Organisation:** Forest Research

**Type of project:** National Research Project/ Consultancy

**Timeframe:** 01.06.2008 -

**Project Description:** The purpose of this project is to address issues of conservation concern that also take account of landscape scale issues. The project will consider and assess different approaches to monitoring and developing guidance to support the implementation of appropriate actions to address these issues. The work may help form the basis of a common approach across government agencies in Scotland and as such should be seen as contributing to SEARS objectives by engaging with all members of the RERAD family

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Managing Outdoor Access

**Project Website:**

**Project Coordinator:** Katrina Brown

**Contact:** Katrina Brown k.brown@macaulay.ac.uk

**Organisation:** Macaulay Land Use Research Institute

**Type of project:** Regional Research Project/ Consultancy

**Timeframe:** 2006 - 2011

**Project Description:** To understand how outdoor access is governed and managed in the CNP. CLOAF.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **Market development opportunities for Activity Tourism in Royal Deeside and the Cairngorms**

**Project Website:** [www.discoverroyaldeeside.com](http://www.discoverroyaldeeside.com)

**Project Coordinator:** John Carnie

**Contact:** John Carnie, [jcarnie@discoverroyaldeeside.com](mailto:jcarnie@discoverroyaldeeside.com)

**Organisation:** Royal Deeside and the Cairngorms Destination Management Organisation

**Type of project:** , Research consultancy

**Timeframe:** 01/08/2010 - 01/11/2010

**Project Description:**

**Themes:** 2. Sustainable Destination

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **NPP Hunt**

**Project Website:**

**Project Coordinator:** Scott Newey

**Contact:** Professor Bill Slee, b.slee@macaulay.ac.uk

**Organisation:** Macaulay Land Use Research Institute

**Type of project:** European Research Project

**Timeframe:** 2007 - 2010

**Project Description:** Exploring the scope for enhanced sustainability of hunting (sport shooting)

**Themes:** 1. Sustainable Land Use 2. Sustainable Destination 3. Sustainable Communities

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Processes and biodiversity at different ecological levels in woodland ecosystems

**Project Website:**

**Project Coordinator:** Glenn Iason

**Contact:** Mrs Jenni Stockan, [j.stockan@macaulay.ac.uk](mailto:j.stockan@macaulay.ac.uk)

**Organisation:** Macaulay Land Use Research Institute

**Type of project:** National Research Project/ Consultancy

**Timeframe:** 2002 - 2007

**Project Description:** To test the hypothesis that diversity within or between the dominant plant populations, determines the diversity at other trophic levels. This component of the project investigated the relationship between Scots pine tree chemistry and its influence on the foraging behaviour of wood ants in a native forest ecosystem. We hypothesised that monoterpene composition, which reflects genetic variation between trees, would have no effect on ant foraging behaviour. Wood ants were observed to forage for caterpillars and tend aphids on pine trees expressing lower concentrations of 3-carene than other chemotypes (Fig. 5). Honeydew formed a substantial component of the diet of ants (94-99% of loads carried back to the nest), far higher than previously documented for the proportion of aphid honeydew compared with solid arthropod prey, such as caterpillars. An analysis of growth ring data suggested that the pine trees foraged by ants had a higher growth rate than other trees. Trees which were foraged by ants showed a significant reduction in the amount of germinating seeds produced compared with trees that they did not forage.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **RERAD Programme 3 WP 3.7 Biodiversity management, Module 1: Biodiversity values**

**Project Website:** <http://www.macaulay.ac.uk/projects/projectdetails.php?302371>

**Project Coordinator:**

**Contact:** Dr Anke Fischer, [a.fischer@macaulay.ac.uk](mailto:a.fischer@macaulay.ac.uk)

**Organisation:** Macaulay Land Use Research Institute

**Type of project:** National Research Project/ Consultancy

**Timeframe:** 2006 - 2011

**Project Description:** This work involved a set of studies of which most focused on the Cairngorms, looking at public understanding of and values associated to biological diversity, attitudes towards species and habitat management, and views on the governance approaches required to manage these sustainably.

**Themes:** 1. Sustainable Land Use 3. Sustainable Communities

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Scots Pine - heather interactions

**Project Website:**

**Project Coordinator:** Rob Brooker

**Contact:** Dr Rob Brooker, r.brooker@macaulay.ac.uk

**Organisation:** The Macaulay Institute

**Type of project:** National Research Project/ Consultancy

**Timeframe:** 2002 - 2004

**Project Description:** The research considered the interactions between regenerating Scots pine and heather across altitudinal and grazing gradients in the Cairngorms. It found that although heather often had negative, competitive impacts on young Scots pine, this was sometimes counterbalanced by ability of pines to "hide" within the heather and avoid deer grazing.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **Sporting estates and recreational land-use in the Highlands and Islands of Scotland.**

**Project Website:**

**Project Coordinator:** Peter Higgins

**Contact:** Professor Peter Higgins, [pete.higgins@ed.ac.uk](mailto:pete.higgins@ed.ac.uk)

**Organisation:** University of Edinburgh

**Type of project:** National Research Project/ Consultancy

**Timeframe:** 2000 - 2002

**Project Description:**

**Themes:** 1. Sustainable Land Use 2. Sustainable Destination 3. Sustainable Communities

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **The Implementation and Analysis of Sustainability Indicators on the Glenlivet Estate**

**Project Website:**

**Project Coordinator:** Bryony Ann Mathie

**Contact:** Miss Vicky Hilton, [vicky.hilton@thecrownestate.co.uk](mailto:vicky.hilton@thecrownestate.co.uk)

**Organisation:** The Crown Estate

**Type of project:** Masters Dissertation

**Timeframe:** 2003 - 2003

**Project Description:** This research by exploring the philosophy of sustainability indicators, and the different methodological frameworks used for implementation and evaluation, has enabled the refinement of sustainability indicators developed for the Glenlivet Estate (Martin, 2002). The collation and analysis of secondary data and the generation of a community survey elicited new information to enable the establishment of directional indicators and sensitive interpretation permits judgements to be made as to the sustainability of Glenlivet Estate.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **An evaluation of community engagement practices on the Glenlivet Estate, Scotland**

**Project Website:**

**Project Coordinator:** Jayne Parmee

**Contact:** Miss Vicky Hilton, [vicky.hilton@thecrownestate.co.uk](mailto:vicky.hilton@thecrownestate.co.uk)

**Organisation:** The Crown Estate

**Type of project:** Masters Dissertation

**Timeframe:** 2006 - 2006

**Project Description:** This research evaluates the effectiveness of community engagement methods used by a landowner on a Highland Estate to involve local communities in the area in its activities and decision-making processes. The work follows an evaluation framework that is based on a review of participatory methods and various evaluation procedures used in community engagement and community development disciplines. A questionnaire and a series of semi-structured interviews are used to assess local opinions of the methods used and the outcomes of various projects and initiatives.

**Themes:** 3. Sustainable Communities

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **Assessing the use of transplants as a conservation tool during climate change**

**Project Website:**

**Project Coordinator:** Rob Brooker

**Contact:** Dr Rob Brooker, r.brooker@macaulay.ac.uk

**Organisation:** The Macaulay Institute

**Type of project:** National Research Project/ Consultancy

**Timeframe:** 09.01.2009 - 12.01.2015

**Project Description:** Climate change is predicted to drive changes in species ranges, yet some species may be unable to move in order to track suitable habitat. This project is assessing whether it is possible to actively move species so as to put them into suitable climatic conditions, considering in particular the problems of downscaling climate projections to specific field locations. We are currently undertaking field trials in the Cairngorms of the translocation technique, focussing on the alpine lichen *Flavocetraria nivalis*.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Compensatory Population Dynamics in a Harvested Mammal

**Project Website:** <http://www.macaulay.ac.uk/hares/>

**Project Coordinator:** Scott Newey

**Contact:** Annabel Harrison (a.harrison@macaulay.ac.uk)

**Organisation:** The Macaulay Land Use research Institute

**Type of project:** PhD Thesis , National Environmental Research Council Small Research Project

**Timeframe:** 10.01.2007 - 09.01.2010

**Project Description:** The Mountain hare is an important game species which has been traditionally harvested in the Central Scottish Highlands for over two centuries. Mountain hares are shot for sport, protection of crops and forestry and to control ticks acting as vectors for louping ill, a viral disease that causes high mortality rates in grouse and sheep. Scottish Mountain hare populations are characterised by high amplitude, weak cycles of approximately 9 years which further complicates their sustainable management. Despite a wealth of knowledge on Mountain hare ecology, patterns in dispersal and how the birth rate, death rate, immigration and emigration change with hare density or in response to harvesting remains unknown. This project will explore dispersal patterns in Mountain hares and investigate how differing harvesting regimes affect population dynamics in this species.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### Expansion of the natural tree-line

**Project Website:**

**Project Coordinator:** Colin Edwards

**Contact:** Mr Colin Edwards, colin.edwards@forestry.gsi.gov.uk

**Organisation:** Forest Research

**Type of project:** Global Research Project

**Timeframe:** 2010 - 2011

**Project Description:** The project will use remote sensing data and historical data combined with dendroecological techniques to look at the changes in tree-lines in and around the Cairngorms. Part of a collaboration with researchers in America.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **Spatiotemporal patterns of foraging in the Scottish wood ant, *Formica aquilonia*, within a natural pinewood.**

**Project Website:**

**Project Coordinator:** Jenni Stockan

**Contact:** Mrs Jenni Stockan, [j.stockan@macaulay.ac.uk](mailto:j.stockan@macaulay.ac.uk)

**Organisation:** Macaulay Land Use Research Institute

**Type of project:** Masters Dissertation

**Timeframe:** 2003 - 2003

**Project Description:** A field study was carried out on the Scottish wood ant, *Formica aquilonia*, within a natural Caledonian pinewood to examine whether observed patterns of ant foraging could be explained in terms of optimal foraging. Two main hypotheses were investigated: (1) Foraging intensity is greatest on larger trees, in close proximity to the nest, and with higher populations of aphids. (2) Larger ants will forage greater distances and retrieve heavier food items. A significant correlation was found in one nest between the volume of ant traffic observed on trees and their distance from the nest. Worker size was similar to that of other species of *Formica*. There was no relationship between size and distance travelled or the load carried. Diet composition and the effect of weather on ant foraging patterns, as reported in other *F. rufa* group species, was confirmed in *F. aquilonia*.

**Themes:** 1. Sustainable Land Use

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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25 November 2010

### **The Economic importance of Deer Management and Fishing to the Economy of Royal Deeside and the Cairngorms**

**Project Website:** [www.discoverroyaldeeside.com](http://www.discoverroyaldeeside.com)

**Project Coordinator:** John Carnie

**Contact:** John Carnie, [jcarnie@discoverroyaldeeside.com](mailto:jcarnie@discoverroyaldeeside.com)

**Organisation:** Royal Deeside and the Cairngorms Destination Management Organisation

**Type of project:** , Research consultancy

**Timeframe:** 01/05/2009 - 01/10/2010

**Project Description:**

**Themes:** 1. Sustainable Land Use 2. Sustainable Destination

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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### **The Cairngorms National Park: Rural development and public attitudes in a stakeholder society**

**Project Website:**

**Project Coordinator:** James Philip Paxman

**Contact:** Miss Vicky Hilton, [vicky.hilton@thecrownestate.co.uk](mailto:vicky.hilton@thecrownestate.co.uk)

**Organisation:** The Crown Estate

**Type of project:** Masters Dissertation

**Timeframe:** 2003 - 2003

**Project Description:** The main aim of this report is to discuss the issues of concern and contention with the set up and implementation of the new CNP and to discuss the effect that the NP will have on rural development in the area. The CNPA became fully functional on the 1st September 2003. At this juncture the majority of decisions concerning the running of the park have been taken. A survey was conducted to try and assess peoples feelings and perceptions of how the creation of the NP will effect the future development of their area, and to highlight areas of contention for discussion. The study is primarily literature based but conduction the survey allowed for an opportunity to meet with many local people and hear what they had to say first hand.

**Themes:** 1. Sustainable Land Use 2. Sustainable Destination

# Cairngorms Knowledge Transfer Network

## Research Projects in the Cairngorms

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### Development of a reliable method for estimating mountain hare numbers

**Project Website:** <http://www.macaulay.ac.uk/hares/>

**Project Coordinator:** Scott Newey

**Contact:** Dr Scott Newey, [s.newey@macaulay.ac.uk](mailto:s.newey@macaulay.ac.uk)

**Organisation:** The Macaulay Land Use research Institute

**Type of project:** , SNH Commissioned Research

**Timeframe:** 08.01.2008 - 04.01.2011

**Project Description:** Assessment of mountain hare abundance is necessary to inform management of mountain hare populations but no simple and widely applicable method has yet been developed. Developing a reliable method for estimating mountain hare numbers that could be used by non-specialists to estimate mountain hare density across a range of densities, habitats and scales was identified as a high priority in the review of the conservation status and management of mountain hares commissioned by SNH in 2005. Current work is investigating the use of dung plots as a method to estimate mountain hare abundance

**Themes:** 1. Sustainable Land Use