Scotland's MOORLAND FORUM

UPLANDS INFORMATION BRIEFING

This is a briefing prepared for members of Scotland's Moorland Forum, and it was developed from an initial draft prepared by Clifton Bain, the Director of the IUCN UK Peatland Programme. See the Peatland Programme's website for details of the project.

Some additional carbon Facts & Figures are listed in Appendix 1 and Appendix 2 provides some additional information about Scotland's Moorland Forum.

PEATLANDS

Peat soils cover over a fifth of Scotland's land area, with deep peat containing some of the highest concentrations of carbon in Europe as well as supporting internationally important blanket and raised bog habitats. Scotland is justifiably proud of its peatland heritage and must ensure that peatlands are managed in ways that maintain the wide range of valuable services this ecosystem provides.

Past activity has resulted in large areas of peatland being damaged and unless urgent action is taken there could be costly consequences for our water industry, efforts to reduce the impact of climate change could be undermined and there could be a loss of biodiversity.

The Moorland Forum believes that:

- Scotland's peatlands should be conserved as an important part of our natural environment providing a range of societal benefits including biodiversity, carbon, water and a historic archive.
- Peatlands have a key role to play in supporting economic and social activity in the uplands and lowlands of Scotland, including tourism, sporting, farming and crofting.
- Damaged peatlands are a costly liability and investment is needed to help bring areas back into favourable condition, forming peat and supporting peatland species and habitats.
- Good peatland management should be rewarded for its delivery of valuable environmental services and supported through well-targeted advice.

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A NEW FOCUS ON PEATLANDS

There is a strong international focus on peatlands as global efforts are being stepped up to tackle the problems of climate change and the loss of biodiversity. Damage to peatlands affects millions of people around the world and there is growing recognition of the serious consequences if this situation is not addressed urgently. New initiatives are being proposed to help support land management that maintains peatlands and restores damaged areas to fully functioning systems.

Additional funding opportunities, beyond those for biodiversity management, are becoming available through increased Government effort on reducing carbon emissions and European budget reform towards delivery of ecosystem services. Land managers in Scotland have a good track record of delivering favourable peatland management and considerable expertise in restoring previously damaged areas. Showcase examples of good practice can be found right across the country and there is already international interest in these positive demonstration sites. Scotland is rightly considered as being among the world leaders in successful management of peatland and restoration of damaged areas.

There is still a major challenge facing Scotland's peatlands. National assessments of their condition show that the resource is deteriorating as a result of the impact of climate change and bad drainage, burning and grazing practices. Over 20% of Scottish peatland is so badly degraded that it is classed as eroding. Within the space of a few decades, a damaged peatland can become so badly eroded that it requires major and costly engineering work to repair and even then, much of the biodiversity and archive value may have been irreplaceably lost. Allowing peatlands to remain damaged is like neglecting to fix a leaking roof in a national art gallery. The longer the delay, the greater the cost of repair and the more the valuable assets are put at risk.

Peatlands are sensitive to climate change. Mismanagement of peatland reduces their resilience and makes them more vulnerable to the loss of carbon, which exacerbates the climate change problem. The changing climate is a threat to peatland, particularly the areas in unfavourable condition. On damaged peatland, an increase in temperature increases the rate of decomposition of peat, a reduction in rainfall will make it more likely that existing peat will dry out and will make it more difficult to retain the peat forming mosses in an active state. Healthy peatlands should be better able to continue to function and resist the pressures introduced by climate change that are likely to lead to a change in the vegetation on peatland, and a further reduction in the coverage of the peat forming mosses.

OPPORTUNITIES FOR SUPPORTING GOOD PEATLAND MANAGEMENT

With the Scottish and UK Governments having set legally binding climate change targets to reduce emissions, the role of peatlands as a carbon store is being recognised. Scotland's peatlands store around 3 billion tonnes of carbon: ten times the amount stored in the whole of the UK's forest biomass, with about 1.6 billion tonnes stored in deep peat. A loss of just 1% of Scotland's peat would equal the whole country's annual carbon emissions. Conversely,

restoring damaged peatlands has great potential to capture and store carbon from the atmosphere and therefore reduce the impact of carbon emissions from other sources.

Peatland restoration could be rewarded alongside other carbon abatement technologies and may become eligible for payments under carbon trading. The concept of carbon trading is that an emitter of carbon pays someone who is able to capture and store an equivalent amount of carbon. There are many issues to ensure standards and verification that need to be resolved before this concept becomes a reality for peatlands, but it is an area that has obvious attraction as an alternative source of income to help pay for sympathetic management work.

Peatlands have a vital part to play in delivering clean water for drinking and for use in industry. Damaged peatlands cause sediment and dissolved contaminants to be carried downstream and costly treatment is required to remove them from drinking water supplies. Restoring peatland habitats can improve the quality of drinking water at source reducing the need for costly water treatment. It would make good sense to redirect the potential savings towards encouraging good peatland management.

Scotland has over two thirds of the UK's blanket and raised bog habitat, and these areas support a range of important wildlife including iconic moorland species, which are rare or threatened. These are internationally important biodiversity priorities and have already attracted significant EU investment in Scotland for their conservation. Restoring habitats of biodiversity importance and safeguarding the ecosystem services they provide is a new priority for the EU in its delivery of international biodiversity obligations.

Agri-environment funding is a major part of the support available for peatlands but better targeted and more adequate funds are required if meaningful progress is to be made in securing peatlands in favourable condition. The IUCN UK Peatland Programme has begun work to help quantify and promote the range of benefits that peatlands provide and the associated costs savings. It is hoped this will inform the various incentives and support systems that will enable land managers to maintain them as fully functioning ecosystems.

LAND MANAGEMENT

A meeting took place in Northumberland on 4th March 2011 to provide the Peatland Programme with an opportunity to gather the views of Land Managers from Scotland and England about the management and restoration of peatlands. A key issue that came from this meeting was the responsibility that land managers have for the proper management of peatland. It was acknowledged that land managers have an enormous amount of experience of management and restoration techniques and that their role was pivotal in maintaining these important areas. However, the level of awareness about the importance of peatlands for the storage of carbon and the provision of ecosystem services needed to be increased. It was also suggested that there should be better information made available about different types of peatland and a guide to the key peat-forming sphagnum mosses should be prepared. As had been agreed at the meeting of the Moorland Forum in February 2011, it was important to

improve the guidance available to landowners and land managers about the best management practices for peatland.

FUTURE DEVELOPMENTS

The Moorland Forum believes that conserving and restoring peatlands should be an important objective for its members. The Forum will pursue opportunities for promoting good practice, supporting demonstration work through collaboration, assisting in research and survey to better quantify the benefits, and encourage the provision of better advice and support for land managers.

STATEMENT BY LORD LINDSAY

Lord Lindsay, Chairman of Scotland's Moorland Forum said, "In support of the Forum's commitment to the good management of moorlands and upland areas for farming, sporting and wildlife interests, the Forum proposes to lead the way in promoting the proper management of peatlands and the repair of damaged areas. As properly managed peatland can act as a significant carbon sink and help to tackle climate change, there is a strong case for more targeted public and private support for good peatland management."

APPENDIX 1

CARBON – FACTS & FIGURES

Source: SNH Magazine – April 2009

A tonne of CO_2 is roughly the same as a person breathes out in a year.

Each year, Scotland's forests remove about 10% of the annual greenhouse gases we release.

The average amount of carbon stored away over a full cycle from planting to harvesting trees in a commercial forest is around 3 tonnes of carbon per hectare each year.

If we use a tonne of timber instead of a tonne of concrete or brick in a building then it saves around a tonne of carbon dioxide.

Peat soils in Scotland contain almost 25 times as much carbon as all other plantlife in the UK.

Scotland's peat soils hold almost a third of the carbon held by all of Europe's forests (3 billion tonnes compared with 9.5 billion tonnes).

Peatland that is drained for forestry releases 2–4 tonnes of carbon per hectare per year for the first 2–4 years after ploughing. After that the trees start to store carbon.

Undisturbed peatlands store about 0.25 tonnes of carbon per hectare each year.

Each household in Scotland releases about 0.5 tonnes of carbon into the atmosphere every year through electricity use.

There are around 1.8 million hectares of peatland and 2.3 million households in Scotland. If all our peatlands were undamaged they would stockpile the same as almost 40% of all the carbon produced by Scotland's households from electricity use.

A typical 2 megawatt, onshore, wind turbine reduces CO_2 emissions by 2,260 tonnes each year (compared with electricity that is produced from the standard mix of sources – coal, oil, gas, hydro and renewables).

Wind farms clearly reduce carbon emissions from fossil fuels, but if they are built on peat they can spend the first 2–5 years 'compensating' for the loss of peat.

Burning a litre of diesel produces around 2.62 kg of carbon dioxide. Petrol has a lower carbon content and produces around 2.39 kg of CO_2 per litre.

Intact bog plantlife builds up around 920 kg of carbon dioxide per hectare per year. Therefore, one hectare of intact bog stockpiles the CO_2 output from 384 litres of petrol or 350 litres of diesel every year.

- The cost of this fuel would be around £460 per year at current prices.
- The one-off cost of restoring bogs, by drain blocking, varies a lot. It can be several hundred pounds per hectare or as low as £8 per hectare in the Flow Country of Caithness & Sutherland.

APPENDIX 2

SCOTLAND'S MOORLAND FORUM

1 The Scotland's Moorland Forum was established in 2002 to provide an opportunity for a diverse range of organisations to come together to discuss issues that effect the management of Scotland's moorland and upland areas. 24 organisations founded the Forum and membership has since expanded to 32. The Forum has developed into a vital multi-stakeholder group that is dedicated to understanding the challenges that face Scotland's moorland and upland areas and to identifying and enabling appropriate solutions. More information is available from the Forum's website: http://www.moorlandforum.org.uk

2 Member Organisations

Association of Deer Management Groups
Association of Salmon Fishery Boards
British Association for Shooting & Conservation, Scotland
British Deer Society
British Trust for Ornithology, Scotland

Cairngorms National Park Authority
Centre for Ecology & Hydrology
Crofters Commission
Forestry Commission Scotland
Game & Wildlife Conservation Trust
Game Conservancy Scottish Research Trustees
Heather Trust
Highland Birchwoods
John Muir Trust
Loch Lomond & The Trossachs National Park Authority
Macaulay Institute
National Farmers Union Scotland
National Trust for Scotland
Royal Institution of Chartered Surveyors
Royal Society for the Protection of Birds Scotland
Rural Directorate, Scottish Government
Scottish Agricultural College
Scottish Association of Countryside Sports
Scottish Countryside Alliance
Scottish Environmental Protection Agency
Scottish Estates Business Group
Scottish Gamekeepers Association
Scottish Natural Heritage
Scottish Raptor Study Groups
Scottish Rural Property & Business Association
Scottish Water (from October 2010)
Scottish Wildlife Trust