REF.	ACTIONS	PARTNERS (lead partners in bold)
3.1	**Encourage and promote sustainable forest management within the catchment.**	**FCS** / CNPA / DDSFB / DFDP / ConFor / DSFIA / FES / AC / ACC / Land owners / Land managers / Research organisations / SEPA / SNH / SNW / SRPBA / Deer management groups / Forestry Contractors Association / **Forestry managers**
3.1.1	Promote the development of long term forest plans which: 1. Identify riparian and floodplain woodland and encourage their restoration, maintenance and expansion. 2. Encourage the extension of low impact forest management.	**FCS** / CNPA / DDSFB / DFDP / ConFor / DSFIA / FES / AC / ACC / Land owners / Land managers / Research organisations / SEPA / SNH / SNW / SRPBA / Deer management groups
3.1.2	Promote and support implementation of Forests and Water Guidelines for forestry practice within the Dee catchment, in particular for forestry road construction and timber harvesting.	**FCS** / **FES** / Forestry Contractors Association / Landowners / **Forestry managers**
3.1.3	Work with landowners to monitor implementation in sensitive sites.	**FCS** / **FES** / Forestry Contractors Association / Landowners
3.1.4	Follow UKWAS standards and become certified where appropriate	Forest managers
3.1.5	Encourage minimum use of pesticides and fertilisers.	SEPA / **FCS** / FES / Landowners / Land managers
3.2	**Encourage locally native tree species (of local provenance) to be planted/ regenerated as permanent riparian woods along watercourses and within areas of conifer woodland.**	**FCS** / Cairngorms LBAP / **FES** / ConFor / FWAG / Landowners / Land managers / SNW / CNPA / DDSFB / DFDP / ConFor / DSFIA / AC / ACC / Research organisations / SEPA / SNH / SRPBA / **RFF** / RDT
3.2.1	Identify potential sites within the lower reaches of the catchment for the future development of floodplain woodland.	**FCS** / CNPA / DDSFB / DFDP / ConFor / DSFIA / FES / AC / ACC / Land owners / Land managers / Research organisations / SEPA / SNH / SNW / SRPBA
3.2.2	Adopt riparian and floodplain woodland development as a priority for Grampian.	**RFF**
3.2.3	Promote the importance of riparian and floodplain woodland.	**FCS** / CNPA / DDSFB / DFDP / ConFor / DSFIA / FES / AC / ACC / SEPA / SNH / SNW / SRPBA
3.2.4	Extend the CASS riparian woodland programme.	DDSFB / RDT
3.3	**Protect salmon and trout spawning areas within forests.**	**DDSFB** / FCS / RDT / Forest managers
3.3.1	Identify spawning areas within forests and threats to their viability.	**DDSFB** / FCS / RDT / Forest managers
3.3.2	Work with forest managers to ensure protection of spawning areas identified.	**DDSFB** / **RDT** / FCS / Forest managers
3.4	**Continue to ensure that proposals for woodland expansion are subject to both 1) EIAs (where necessary) and 2) assessments of their potential impact on water quality (this would include where they occur in defined critical load exceedance areas).**	**FCS** / CNPA / DDSFB / DFDP / DSFIA / FES / ConFor / Land managers / Landowners / MI / SEPA / SNH

Acronyms are listed in the centre of this Action Card

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woodland management

3 WATER QUALITY

OBJECTIVE 3. Encourage and promote good environmental practice for woodland expansion and management in order to protect and enhance water quality and biodiversity.

BACKGROUND

The forests and woodlands of Deeside form one of the largest networks of woodland in Scotland. Upper Deeside is characterised by extensive, contiguous woodlands composed of 85% native tree species of high natural character and quality. Woodlands of Lower Deeside are predominantly large productive conifer forests while the City of Aberdeen has many areas of broadleaved woodland which add much to the character of the Dee. The forests and woods have a close association with the river and people of Deeside, where they contribute to the water quality and biodiversity, as well as the landscape, employment and recreation.

These woodlands have a long history of management and use, with felling and regeneration taking place over several centuries. Operations associated with good forest management include road construction and maintenance, the felling of trees and their extraction. These operations can have an enormous influence on instream habitats and water quality for many miles downstream. Forests and their management can have positive and negative impacts on water quality: while forestry operations do have the potential to cause diffuse pollution, good forest management can protect and enhance the water environment. In particular, the presence of native species of trees alongside the watercourses can be hugely beneficial to water quality and to the wildlife which inhabits the catchment, and indeed are an integral part of the freshwater ecosystem.

ISSUES

- Forestry operations require careful planning and timing to predict and avoid negative environmental impacts (such as soil damage and silt pollution) which are hard to rectify once they occur.
- If poorly implemented, forestry operations can result in diffuse pollution (siltation, pesticides, acidification and nutrient enrichment). In particular, siltation that can result from felling, extraction and forest-road maintenance can have significant and long-term impacts on instream habitats and water quality in the watercourse downstream. For example, the afforestation in the Feugh and Dye catchments during the early 1990s caused some damage by poor ground preparation.
- Many of the woodlands situated towards the top of the tributaries grow on thin, fragile soils which are particularly sensitive to disturbance.
- At lower altitudes, where land-use is mainly agricultural, there is a shortage of semi-natural riparian woodlands, which protect and enhance the water environment and are an integral part of freshwater ecosystems.

EXISTING / RECENT INITIATIVES

- Waterbodies at risk of failing to meet good ecological status due to forestry impacts are being discussed as part of the river basin planning process. Existing remedial measures have been detailed, for example much of the lower Glen Dye catchment consists of Scots Pine forest managed under Low Impact Silvicultural Systems, and this should eventually rectify problems arising from pre Forests and Water guidelines practises.
- Sustainable forest management requires ongoing woodland operations such as felling and regeneration. These activities require approval by Forestry Commission Scotland and can be eligible for grant aid. Such approvals are subject to the standards set out in the Guidelines. Long term forest plans are prepared by owners and set out 20 years of future woodland management.
- UK Forestry Standard (Forestry Commission, 2004)
- UK Woodland Assurance Standard objective of reducing pesticide and herbicide use
- Scottish Forestry Strategy 2006
- Scottish Forestry Grants Scheme

WHO IS INVOLVED?

- Aberdeenshire Council
- Aberdeen City Council
- Cairngorms Local Biodiversity Action Plan
- Cairngorms National Park Authority
- Confederation of Forest Industries
- Dee District Salmon Fishery Board
- Dee Salmon Fishery Improvement Association
- Deer Management Groups
- District Forestry Development Programme
- Forestry Contractors Association
- Forestry Commission Scotland
- Forest Enterprise Scotland
- Forestry Managers
- Landowners & land managers
- River Dee Trust
- Research Organisations
- Regional Forestry Forum
- Scottish Environment Protection Agency
- Scottish Natural Heritage
- Scottish Native Woodlands
- Scottish Rural Property & Business Association

Further copies can be downloaded at www.theriverdee.org. For further information contact the Dee Catchment Officer
c/o The Macaulay Institute, Craigiebuckler, Aberdeen AB15 8QH Telephone: 01224 498200 email: info@theriverdee.org

deecatchment partnership

- Environmental Impact Assessment Regulations
- Cairngorms Forests and Woodland Framework
- Cairngorms Forestry Framework
- The Forest and Woodland Strategy for Aberdeenshire and Aberdeen City
- Deeside Forest Initiative
- Riparian and Wet Woodland North East Local Biodiversity Action Plan (LBAP)
- Forests and Water Guidelines Seminar
- Forestry and Water Seminar (2007)
- Harvesting and the Environment Seminar
- Cairngorms LBAP and Cairngorms Park Plan address related issues.
- The Dee District Salmon Fishery Board (DDSFB) and River Dee Trust (RDT) aim extend their riparian woodland programme beyond the scope of the LIFE project.
- Development of Forest Habitat Networks

ACTIONS REQUIRED

- Promote long term forest plans.
- Promote and monitor implementation of Forests and Water Guidelines for forestry practice within the Dee catchment.
- During planning, identify riparian woodlands and flood plains within forests and restore and extend them through regeneration/planting and implementing low impact forest management (i.e. retaining a permanent woodland appearance, with felling done at a more intimate scale and with a preference for natural regeneration rather than planting).
- Encourage the accumulation of wood debris in the catchment to benefit water quality and habitat structure.
- Ensure that riparian and floodplain woodland development is considered as a priority by the Regional Forestry Forum.
- Expand the area of riparian woodland by planting and regeneration, while taking into account the needs of other species with competing interests e.g. consider the use of small-seeded broadleaves to prevent the spread of grey squirrels.



Glen Gairn woodland (S. Cooksley)

- Many alternative silvicultural techniques rely on natural regeneration and to be successful in Scotland, sites need to be of low wind hazard and have deer control. In this respect, local deer management groups need to be involved.
- Seek opportunities to restore previous damage.

GUIDELINES AND INFORMATION

See Action Pack Annex for information sources

- The Forests and Water Guidelines advises owners on how to plan and implement forest operations (Forestry Commission (2003) Forests and Water Guidelines 4th Edition)
- Scottish Native Woods (2000) Restoring and Managing Riparian Woodlands.
- The UK Forestry Standard (Forestry Commission, 2004)
- North East LBAP Riparian and Wet Woodland Habitat Action Plan (Dennis et al, 2000)
- Deeside Forest Environmental Impact Assessment (EIA) Guidance
- UK Woodlands Assurance Standard
- Forestry Commission Practice Guide: Reducing pesticide use in forestry
- The Management of Semi-Natural Woodlands: 8. Wet Woodlands. 1994. Forest Practice Guide.' ISBN 0-85538-265-1

LEGISLATION

See Action Pack Annex for information sources

- Forestry Act 1967
- Control of Pesticides Regulations 1986
- Environmental Impact Assessment Regulations, Forestry (Scotland) 1999
- Water Environment and Water Services (WEWS) (Scotland) Act 2003
- Nature Conservation (Scotland) Act 2004
- Groundwater Regulations (included in the Water Environment (Controlled Activities) (Scotland) Regulations 2005
- Strategic Environmental Assessment (SEA) legislation

BENEFITS TO PROTECTED SPECIES

The following specially protected species will benefit from the Actions:

- Grass wrack pond weed *Potamogeton compressus*
- Pillwort *Pilularia globulifera*
- Wych Elm *Ulmus glabra*
- Freshwater pearl mussel *Margaritifera margaritifera*
- Common frog *Rana temporaria*
- Palmate newt *Triturus helveticus*
- Aspen Hoverfly *Hammerschmidtia ferruginea*
- Northern blue damselfly *Coenagrion hastulatum*
- Stiletto-fly *Cliorisimia rustic*
- Stone fly *Brachyptera putata*
- Atlantic salmon *Salmo salar*
- Brook lamprey *Lampetra planeri*
- River lamprey *Lampetra fluviatilis*
- Sea lamprey *Petromyzon marinus*
- Daubenton's bat *Myotis daubentonii*
- Otter *Lutra lutra*
- Pipistrelle bat *Pipistrellus pipistrellus*
- Water vole *Arvicola terrestris*
- Goldeneye *Bucephala clangula*
- Snipe *Gallinago gallinago*
- Osprey *Pandion haliaetus*

RELATED ACTION CARDS

4. Road and access track drainage

15. Effects of land management on river flow

16. Flood alleviation

19. Effects of changes in land use

23. Riparian and wet woodlands