

Cairngorms National Park  
Abernethy National Nature Reserve (NNR)  
Education Pack



Scotland's  
National Nature  
Reserves  
Magical places, amazing wildlife.



Cairngorms  
NATIONAL PARK

Pàirc Nàiseanta a' Mhonaidh Ruaidh

Photography: Lorne Gill/SNH, P&A MacDonald/SNH, Angus Findlay/CNPA, Stewart Grant/CNPA, Explore Abernethy, David Gowans, CNPA, Ann Glen Collection, Raymond Besant, Wee Epics/CNPA, SNH.

Published by Cairngorms National Park Authority/Scottish Natural Heritage  
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ISBN 978-1-906071-69-1

[www.cairngorms.co.uk](http://www.cairngorms.co.uk)  
[www.snh.gov.uk](http://www.snh.gov.uk)

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## Cairngorms National Park



## Introduction

This education pack provides guidance and support on visiting National Nature Reserves in the Cairngorms National Park for everyone from teachers to group leaders. They provide examples of approaches and activities that can help deliver Curriculum for Excellence through outdoor learning.

From background information and how to plan your visit, to useful contacts and age related activities, everything is here to make your learning experience at Abernethy one to remember. Using these resources to effectively plan your trip will also help make learning back in the classroom both rewarding and stimulating for those taking part as well being as relevant as possible to the Curriculum for Excellence.

This pack is intended to provide a starting place for those leading groups to develop their own approaches and activities, led by pupils own needs and curiosity, as they become more familiar with outdoor learning and the NNRs.

Abernethy is one of nine NNRs in and around the **Cairngorms National Park**. It is home to some of Scotland's most spectacular wildlife and is a mosaic of ancient Caledonian pinewood, moorland, bog, mountain plateau, rivers and lochs.

With the largest native Scots Pinewood in Britain, and many miles of tracks, this is the place to see crested tits, Scottish crossbills and red squirrels.

Famous for its ospreys, Loch Garten is in the middle of the Reserve. These magnificent birds can be seen from the Osprey Centre.

## National Nature Reserves (NNRs)

NNRs are magical places where you can experience the incredible sights and sounds of Scotland's natural world.

These Reserves help protect an amazing range of wildlife and landscapes, including many rare species and habitats of international importance.

Located throughout Scotland, NNRs are open to everyone to visit and enjoy.

## About the Cairngorms National Park

The Cairngorms National Park is Britain's largest National Park (4,582 km<sup>2</sup>) and contains a unique range of landscapes, wildlife, habitats and people.

Nearly 40% of the Park is designated as important for its nature and landscapes and one quarter is of European importance.

It has five of Scotland's six highest mountains and impressive landscapes and landforms sculpted by Ice Age glaciers. The central mountain area supports a unique collection of plants and animals including golden eagle and dotterel, while the interaction between people and nature has produced the rich diversity found in the heather moorlands.

Capercaillie, wildcat and twinflower are all found in the pinewoods, while the clean waters of the Spey, Dee and Don support wildlife like salmon, rare lampreys and endangered freshwater pearl mussels. These river valleys also provide livelihoods for local communities.

The National Park is home to around 17,000 people and tourism is an important part of the economy with at least 1.5m people visiting the Cairngorms each year.

## National Parks

In Scotland, National Parks are extensive areas of the very highest value to the nation for their scenery, wildlife, and cultural heritage.

They provide an integrated approach to management and sustainable development to safeguard the special qualities of these areas for the long-term.

They also provide opportunities for the public to enjoy the special natural and cultural heritage.

There are two National Parks – Cairngorms and Loch Lomond & The Trossachs. For more information visit the official National Park websites:

[www.cairngorms.co.uk](http://www.cairngorms.co.uk)

[www.lochlomond-trossachs.org](http://www.lochlomond-trossachs.org)

## Visiting Abernethy NNR

Abernethy NNR extends to 12,754 hectares (more than 49 square miles), the majority of which is owned and managed by the Royal Society for Protection of Birds. A small area near Nethy Bridge, known as Dell Woods, is owned and managed by Scottish Natural Heritage. Dorback Estate, a private sporting estate, lies to the east of the Reserve.

## Who can help you arrange your visit?

- **Explore Abernethy Ranger Service**  
*For ranger-led activities and local information*  
**Contact:** The ranger, Community Centre, Dell Road, Nethy Bridge, PH25 3DG  
**Tel:** 01479 821565 **Email:** ranger@nethybridge.com
- **Royal Society for the Protection of Birds (RSPB)**  
*For educational visits to the Reserve including Loch Garten and the Osprey Centre*  
**Contact:** Reserve manager (Loch Garten), Forest Lodge, Nethy Bridge, PH25 3EF  
**Tel:** 01479 831476 (April to end of August)  
**Tel:** 01479 821409 **Email:** abernethy@rspb.org.uk
- **Scottish Natural Heritage (SNH)**  
*For information about Dell Woods and to access the Riverbank Educational Resource Box*  
**Contact:** South Highland Office, Achantoul, Aviemore, PH22 1QD  
**Tel:** 01479 810477  
**Email:** south\_highland@snh.gov.uk  
[www.nnr-scotland.org.uk/abernethy](http://www.nnr-scotland.org.uk/abernethy)

- **Cairngorms National Park Authority**  
*For educational resources and CPD opportunities about the National Park*  
**Contact:** Outdoor Learning officer or Education and Inclusion officer, 14 The Square, Grantown-on-Spey, PH26 3HG  
**Tel:** 01479 873535 **Email:** enquiries@cairngorms.co.uk  
[www.cairngorms.co.uk](http://www.cairngorms.co.uk)  
[www.cairngormslearningzone.co.uk](http://www.cairngormslearningzone.co.uk)
- **Spey Fishery Board**  
*For information on the River Spey and resources including 'Salmon Goes to School' and 'School Goes to Fish' programmes*  
**Contact:** Spey Biologist **Tel:** 01340 810841  
**Email:** research@speyfisheryboard.com  
[www.speyfisheryboard.com](http://www.speyfisheryboard.com)
- **Dorback Estate (on the edge of NNR)**  
*For access to River Dorback*  
**Contact:** CKD Galbraith, Inverness **Tel:** 01463 245361 **Email:** Philippa.tolhurst@ckdgalbraith.co.uk

These organisations may suggest other relevant contacts to you to help make the most out of your visit.

## When to visit

- In spring for woodland flowers
- In summer for watching ospreys at Loch Garten, butterflies and dragonflies
- In autumn for the rich variety of fungi
- In winter for spotting an otter by the river, and squirrels in the pine trees
- For visits to the River Dorback, the best time to visit is from end of February to end of June to avoid the shooting season.



## Getting there

**By road:** The main access points to this Reserve are Loch Garten and Nethy Bridge. Loch Garten is on a minor road 2½ miles from Boat of Garten and 4 miles from Nethy Bridge. Nethy Bridge is on the B970 6 miles from Granttown-on-Spey.

**By bus:** Bus service 34 runs between Aviemore and Granttown-on-Spey, stopping at Boat of Garten, Raebreck Junction (for Loch Garten 1.6 miles walk) and Nethy Bridge.

**By rail and foot:** Between April and October, the Strathspey Steam Railway runs from Aviemore, stopping at:

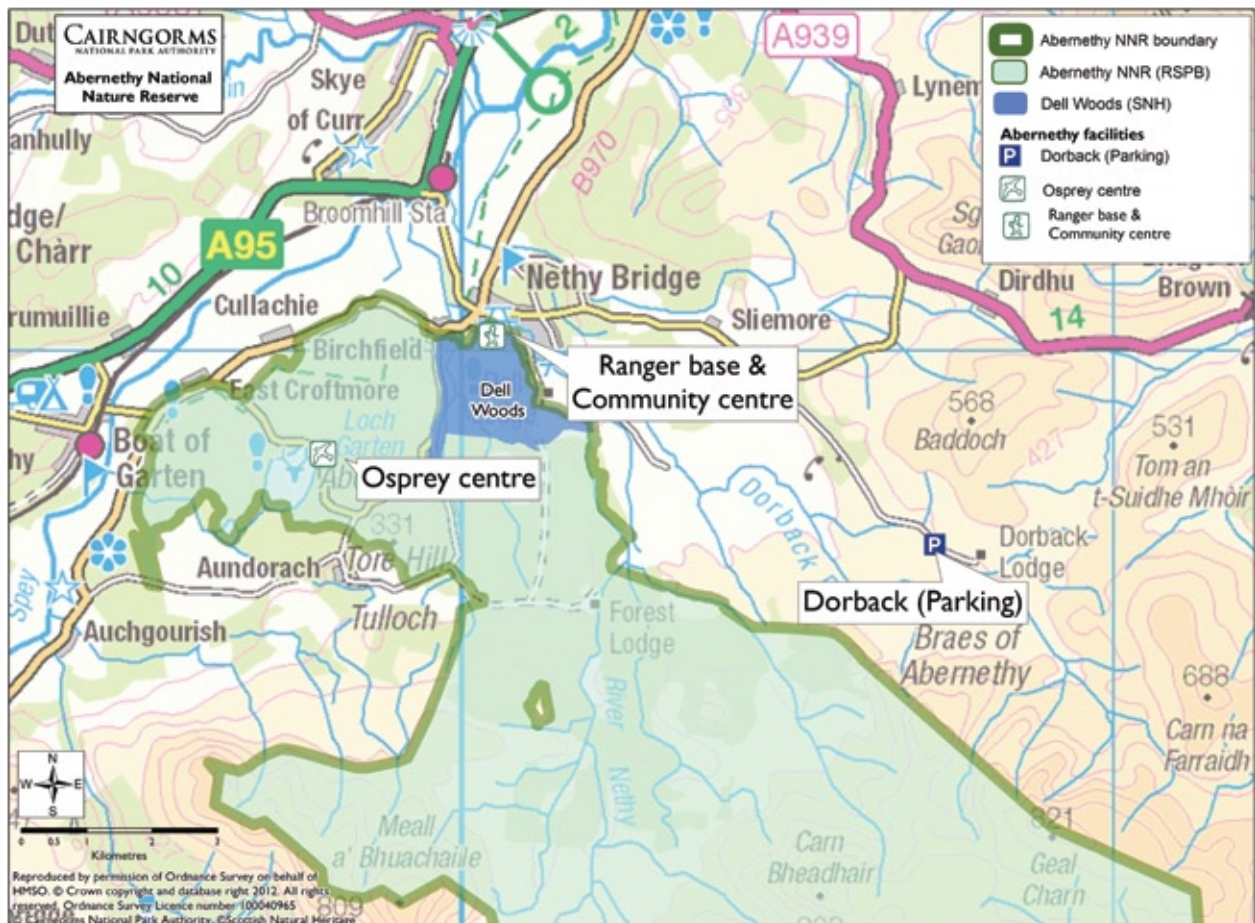
- Boat of Garten, with a path linking to Loch Garten (2 ½ miles);
- Broomhill with a path linking to Nethy Bridge (1 mile).

## Facilities

- Explore Abernethy Visitor Centre, Community Centre, Nethy Bridge. Open Easter to end October, Saturday to Wednesday, 12–4pm.
- RSPB Loch Garten Osprey Centre (open daily from 1st April to end August, 10am to 6pm). Live video pictures, relayed back to the centre, give a close-up view of action on the nest. Capercaillies can also be seen from the centre during their early morning spring lek. Caper-watch is from 1st April to 20th May from 5.30am to 8.00am.
- There is also a good network of paths around Nethybridge and Loch Garten. Path leaflets are available from Explore Abernethy (see contacts).
- Toilets available at the Community Centre, Dell Road, Nethy Bridge (all year) and Loch Garten Osprey Centre (seasonal).

## Need to know

Many birds breed and raise their young on the Reserve so during the spring and early summer please try to stay on the paths, to keep disturbance to a minimum.



## General guidelines for educational visits

With its mountains, ancient forests, rivers and wild moorlands, the Cairngorms National Park offers an exceptional array of things to do and see, making a trip to this Park an experience that will be of great value to any pupil.

## Organising the visit

General advice on outdoor learning is available from Highland Council: [www.highland.gov.uk/learninghere/communitylearning/outdoorlearning](http://www.highland.gov.uk/learninghere/communitylearning/outdoorlearning) or your own local authority.

We recommend you look at *Getting Into Scotland's National Parks and National Nature Reserves* produced by the Cairngorms National Park Authority, in conjunction with others. It has practical information to help plan and organise your trip as well as allowing pupils to get the most from their outdoor learning experience.

Your school or local council will have its own procedures for visits, such as:

- general on-line policy, guidance, checklists and forms; and
- local authority staff and other teachers who are familiar with the procedures and can help.

Many sites have site specific guidance, advice and risk assessments.

## Planning your visit

Effective, safe and enjoyable outdoor activities usually have the following:

- well defined objectives
- planning and preparation
- risk assessment – see page 6
- emergency and contingency planning
- clearly defined roles and responsibilities
- good communication
- adequate supervision
- evaluation – see page 10

Think about the reason for your excursion, educational aims and learning objectives. How will you use the site? What's the best time of year to visit?

If you are not sure what you want to do in the National Park or NNR, ask the Park Authorities or the site managers/rangers for information on packaged experiences/activities.

## Cost and travel

There are many activities on offer in the National Park with varying cost implications. Many are free but some sites have entry fees, so it is worth checking.

There are sources of funding to support outdoor learning including transport. Your local authority or other National Park partners may have small grants available, so it is worthwhile contacting them.

Community transport schemes can help with transport and *The Cairngorms Explorer* leaflet will give you information about travelling to and around the Park by public transport (see contacts).

## Contacts

Cairngorms National Park Authority,  
14 The Square, Grantown-on-Spey,  
Morayshire, PH26 3HG

Tel: 01479 873535

Email: [enquiries@cairngorms.co.uk](mailto:enquiries@cairngorms.co.uk)

[www.cairngorms.co.uk](http://www.cairngorms.co.uk)

Education Scotland  
[www.educationscotland.gov.uk](http://www.educationscotland.gov.uk)  
[www.ltscotland.org.uk](http://www.ltscotland.org.uk)

Highland Council  
[www.highland.gov.uk/learninghere](http://www.highland.gov.uk/learninghere)

National Nature Reserves  
[www.nnr-scotland.org.uk](http://www.nnr-scotland.org.uk)



## Booking

Agree a provisional date to visit as early as possible with the site managers/rangers and complete a booking form or confirm the booking by phone. Procedures for parental consent will be outlined by your local authority or school.

## Preparatory visit

Visiting the National Park or NNR before your trip is useful for risk assessments, checking activities and facilities. If this is not possible, phone the site manager, ranger or someone in the Park Authority to talk through your visit (see contacts on page 3).

## Health and safety

Learning to deal with risk is part of growing up. Promoting a common-sense approach to real risks allows young people to develop the skills they need.

Outdoor learning provides teachers and pupils with an opportunity to look at the dangers and difficulties that may arise on a visit and make plans to avoid, reduce or manage them.

There is a legal requirement for a process of risk assessment to take place in most outdoor learning situations. The basic approach is outlined by the Health and Safety Executive (HSE) in their guidance 'Five steps to risk assessment'. Local authority requirements should also be checked.

### Pupil to adult ratios

Your local authority or school will have guidelines.

### Adult helpers

Briefing adult helpers is important to support learning and health and safety. Clearly identify the teacher in overall charge of the excursion. Should they encounter any difficulties with pupil behaviour, or other problems these should be referred to the teacher in charge.

### Travel

Pupils travelling by coach should remain seated at all times and wear seatbelts where these are fitted. If you are using your own car please check that your existing insurance policy covers the transport of pupils on school excursions.

### Behaviour

Remind pupils of standards of behaviour and advise them of any additional rules linked to the visit or the site. Discuss with pupils possible hazards associated with the visit and how these might be avoided or reduced.

## First Aid

It is strongly recommended that at least one of the group's leaders to hold a current first aid certificate. All adults in the group should know how to contact the emergency services. The minimum first aid provision for an excursion is:

- A suitably stocked first aid kit (HSE recommends minimum contents).
- A person appointed to be in charge of first aid arrangements.
- First aid kit should be available and accessible at all times.

All minibuses are required by law to carry a first aid kit. Travel sickness bags are also a sensible precaution for pupils.

### Emergency contact

Your local authority or school will have standard emergency procedures, and these should be followed.

## Further information

Education Scotland has produced guidance on health and safety for outdoor learning  
[www.educationscotland.gov.uk](http://www.educationscotland.gov.uk)  
[www.ltscotland.org.uk](http://www.ltscotland.org.uk)

The Scottish Government has produced *Health and Safety on Educational Excursions – a good practice guide* (2004)  
[www.scotland.gov.uk](http://www.scotland.gov.uk)

The Health and Safety Executive (HSE) provides guidance on risk management in the education sector, and in their *Five steps to risk assessment*  
[www.hse.gov.uk](http://www.hse.gov.uk)

Further guidance can be obtained from your local authority.





## Hazard information

It is the responsibility of teachers and group leaders to complete a risk benefit analysis before any outdoor learning site visit with a group. Most education authorities give specific guidance on how this should be carried out.

The potential hazards listed here are generic and should be viewed as a starting point for carrying out risk benefit analysis of specific activity sites. Ideally, this should be carried out on site by teachers and group leaders.

Photographs of specific sites linked to the activity cards can be used as an additional support tool for teachers and group leaders and as a learning resource to engage pupils in assessing risk prior to a visit. The information opposite does not replace a teacher's or group leader's own risk assessment.

Remember though, that the benefits of the visit to children's learning and wellbeing will far outweigh well managed potential hazards. Through experience, children learn how best to deal with hazards.

## Potential hazards at Abernethy NNR

- Traffic on the road or moving in the car park
- Uneven surfaces – roots, rocks, slopes etc.
- Wet/slippery surfaces
- River – moving water and steep banks
- Low branches
- Fallen branches cause tripping hazards
- Other visitors – walkers, cyclists, dogs
- Risk of infection from soil/water micro organisms
- Risk of getting lost/separated from the group
- Ticks – Lyme Disease
- Bites/stings from insects or plants
- Changes in weather
- Barbed wire fences and stiles



## Scottish Outdoor Access Code (SOAC)

The Scottish Outdoor Access Code reminds us of the needs and wishes of other countryside users and wildlife. The main messages are:

- Take responsibility for your own actions.
- Respect the interests of other people.
- Care for the environment.

There are two Code activity guides available for teachers and group leaders to help young people explore and understand their rights and responsibilities in the outdoors. One is for primary (8-12 year olds) and one for secondary (12-14 year olds).

Find the guides at  
[www.outdooraccess-scotland.com](http://www.outdooraccess-scotland.com)



## Curriculum for Excellence and Outdoor Learning

Education Scotland emphasise the importance of outdoor learning on their website. The activities in this Pack have been developed for Curriculum for Excellence and offer learning experiences at a wide range of levels, allowing progression.

In order to get the best learning experience out of your visit consider these questions:

- which experiences will have more impact on learning if undertaken outdoors?
- how can learning outdoors enhance learning within curriculum areas?
- which experiences are best suited to a combination of indoor and outdoor learning?
- how can learning indoors best be consolidated, progressed or enhanced using the outdoors?
- what opportunities exist for linking learning across the curriculum?

### Planning for outdoor learning

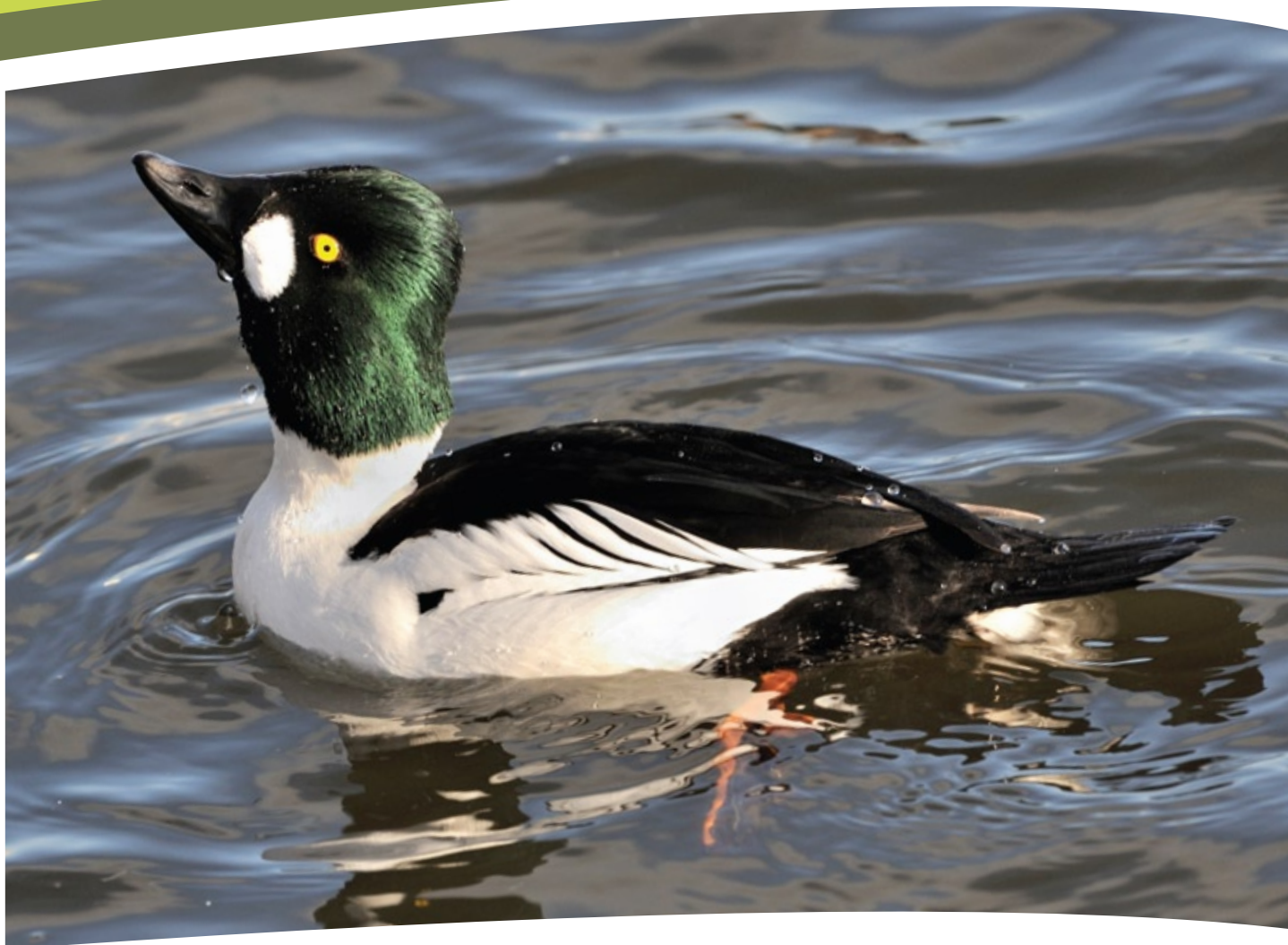
Planning for progressive learning experiences is helped when teachers and educators take full account of children and young people's previous experience of outdoor learning. The outdoor learning opportunities are tiered from school grounds to local area, to day visits, to residential and then abroad. The Park is particularly relevant for day visits and residential stays.

### Interdisciplinary learning, cross cutting themes, and skills for learning, life and work

- Although the activities are primarily focused around Science and Social Studies experiences and outcomes, they have been planned to enable pupils to engage with the topics and explore NNRs through meaningful interdisciplinary contexts.

- Health and wellbeing outcomes are addressed through engaging pupils in risk benefit analysis and outdoor access code activities help them to take responsibility for their own and others safety. In considering how their behaviour might impact the environment and other Nature Reserve users, they develop attitudes and skills which support them in becoming responsible citizens.
- All of the 'During Visit' activities require effective communication and co-operation with other pupils in large and small groups and also with adult leaders. Through working together in the outdoors, pupils have opportunities to become effective contributors.
- The outdoor environment offers enjoyment in learning and pupils are challenged through practical exploration, asking questions and applying their knowledge in a novel context, supporting them in their journey to become successful learners and confident individuals.
- Through hands on experience and personal connection with a special place such as an NNR, pupils are given the opportunity to engage with and develop informed attitudes towards issues of sustainability, community, conflict, conservation and development.
- The suggested pre-visit and follow up activities make links with a wide range of curricular areas including: Numeracy, Literacy, Health and Wellbeing, Expressive Arts, Technologies, Science and Social Studies.





### Challenge and assessment

The novel context of the outdoors encourages pupils to engage in practical challenging tasks. When planning activities, an increased element of challenge can be included by:

- challenging pupils to create/do something in the most imaginative way they can.
- limiting resources available so that increased co-operation is required.
- framing activities in the style of a question that requires elements of problem solving and higher order thinking skills.
- having a set time for the task.
- introducing an element of award achievement or competition.

Activities in the outdoors can also be used for assessment. Skills and knowledge learned in the classroom can be applied in new ways outdoors and evidence can be collected in film, photos, observation notes, or active self assessment techniques. Pupils can also show their understanding of concepts by designing activities for other pupils at their own or a lower level.

### Evaluation

At its simplest, asking the group and writing down the following points will provide a useful guide to how the visit has gone and how it could be improved next time.

- what went well?
- what didn't go well?
- what did the group find most useful?
- what did the group find most enjoyable?
- what could be improved or changed next time?

Education Scotland's outdoor learning web pages have an evaluation resource that can help you evaluate your work in more detail.

### Further information

Education Scotland  
[www.educationscotland.gov.uk](http://www.educationscotland.gov.uk)  
[www.ltscotland.org.uk](http://www.ltscotland.org.uk)





## About Abernethy NNR

Abernethy NNR has a rich variety of landscapes from woodlands and rivers to moorland and windswept mountain plateaus and it's a home to a wide diversity of plants and animals, many of which are nationally rare or scarce. It is designated an NNR on account of its many special features.

Just under half of the 4,000 hectares of forest is **native pine woodland**, a historic remnant of Scotland's past, just as important as our castles. These pines are the descendants of the first pines to arrive after the last ice age, 8,800 years ago and they covered vast areas of the Scottish Highlands. Today, however, native Caledonian pinewoods cover only 180 square kilometres of Scotland.

The Reserve is home to some **iconic Scottish mammals and birds** including red squirrel, capercaillie, and osprey. Pinewood **flowers**, including intermediate wintergreen, twinflower and creeping lady's tresses can also be found.

**Wood ant nests**, looking like piles of pine needles, are a common sight in some parts of the Reserve. With up to 100,000 individuals living in a single nest, and eating significant numbers of leaf-eating insects, they are an important part of the pine forest ecosystem. Another Reserve species, the northern **damsel fly**, is Scotland's rarest and most endangered species of damselfly.

The **River Nethy** is a tributary of the great River Spey, flowing from the Cairngorm mountains and joining the Spey four miles from Grantown-on-Spey. Animals such as otter, water vole, dipper, salmon and lamprey live in this high-quality, freshwater river – an important natural resource for nature and people.

It is likely that **people** have lived around Nethy Bridge for about 4,000 years and you can see standing stones,

which date from around this time, just north-east of Nethy Bridge, at Ballintomb.

About 300 years ago the woodland was being felled for **timber** to meet the needs of war, shipbuilding and local construction. The timber was transported from the forest to the nearest riverbank by horse and was then floated downstream to a collecting point or sawmill. Sluices in specially constructed dams in the upper reaches of these rivers were opened to flush the logs downstream, guided by men with poles. This continued until the latter half of the 19th Century when the roads were upgraded, and the railway arrived providing cheaper and more efficient routes to transport timber to the south.

Today, the Reserve is managed primarily for conservation – to restore the natural forest structure and encourage forest expansion using natural processes as far as possible. There is a special focus on managing bog woodland and creating deadwood to increase biodiversity, while deer are culled to a level where natural woodland can develop in their presence. A network of paths in Dell Woods and around Loch Garten encourage visitors to explore the Reserve.

### Further information

[www.nnr-scotland.org.uk](http://www.nnr-scotland.org.uk)  
[www.snh.org.uk](http://www.snh.org.uk)  
[www.rspb.org.uk/reserves](http://www.rspb.org.uk/reserves)  
[www.exploreabernethy.co.uk](http://www.exploreabernethy.co.uk)  
[www.nethybridge.com](http://www.nethybridge.com)



## Educational activities for Abernethy NNR

Activity cards have been provided that will help meet the experiences and outcomes across all levels of the Curriculum for Excellence. An outline of these activities are summarised below according to approximate age range of pupils, although please note these may be earlier or later for some pupils.

Please also note that these are intended to give illustrative starting points for activities rather than being prescriptive.

Reference to specific experiences and outcomes are found on individual activity cards.

	Title	Location	Recommended Time	Suggested Curricular Areas
<b>Early Level</b> Pre-school to P1 Page 13	Who lives in the forest?	Dell Woods & Explore Abernethy Centre	Half day	<b>Science:</b> Interdependence, observation of natural environments
<b>Level One</b> To P4 Page 16	Abernethy – a useful place.	Dell Woods – Kings Road Trail & Explore Abernethy Centre	Half day or full day if including time in the Centre	<b>Social Studies:</b> Land use, life in the past
<b>Level Two</b> To end P7 Page 19	The River Nethy and its Watery Woodland.	Riverside Path & Explore Abernethy Centre	Full day	<b>Science:</b> Practical investigations, benefits of plants
<b>Level Three</b> S1 to S3 Page 25	The River Nethy – explore the catchment.	Dorback Burn, River Nethy, River Spey	Full day	<b>Social Studies:</b> Formation of landscapes
<b>Senior Level</b> S4 to S6	Work experience with RSPB – regular long term or short term options  John Muir Award  Cairngorms National Park Junior Rangers programme  Information about land based careers – possible opportunities to shadow staff at work or have careers visits to school  Duke of Edinburgh’s Award volunteering	Abernethy  Throughout the National Park  Throughout the National Park  See ‘Visiting Abernethy’ sheet for contact details	Various options available	As part of the new National 4 and National 5 exams, and Advanced Higher, Abernethy can provide excellent opportunities for individual investigations and towards the units on land user conflicts (Rural Land Resources) and elements of Physical Environments.

## Activity Card: Early Level Who lives in the forest?



Seek out the creatures of the ancient forest – How many can you spot? Where do they live? Why do they live here?

### Learning intentions of this activity

- Enjoy and record a journey through the forest.
- Explore the forest habitat, find and learn about some of the special characters that live there.
- Find out why the creatures live in Abernethy forest and understand that it is a special place.

### Early Level Experiences and Outcomes

- I have observed living things in the environment over time and am becoming aware of how they depend on each other. **SCN 0-01a**



**Recommended group size:** Whole class activity (depending on number of adult helpers)

**Time required:** ½ day



## Pre and Post visit – Active learning ideas to try in your setting

- Share forest stories together
- Camouflage mask making with natural materials
- Sing nature related songs and rhymes—Cbeebies website has lots to choose from
- Look at factual nature books together and discuss the animals that you might meet in the forest, what they need to live and why they live there
- Make bird cakes and put out food, nest boxes, insect homes etc to encourage wildlife into your setting
- Provide den building materials in your outdoor area
- Make a forest role play area
- Create environmental art with natural materials
- Minibeast numeracy, sorting and small world activities in the sand or water tray
- Risk assessment activity

### Activities to do:

#### Who lives in the forest?

Base your visit at the Explore Abernethy Centre (GR: NJ 001204) and along the King's Road Trail in Dell Woods. Set out a trail through the woods, placing woodland wildlife soft toys or laminated pictures and animal signs (tracks, fur, feathers, pellets etc) for the children to find in the trees and amongst the undergrowth.

- A little way into the forest, gather your group together and share the story of the Gruffalo or another forest journey/wildlife themed story. Discuss the creatures that might live in this forest and where they might live.
- Journey through the forest together looking out for real and soft toy forest creatures. Children could take a long, rolled up piece of paper with them to create a map of their route as they go—drawing what they see, sticking on photos and natural objects they collect. They might even find a Gruffalo at the end!
- With a large group of small children, it may be difficult to spot some of the more reclusive forest creatures, but minibeasts are often easy to find, so take time to hunt for some of the smaller, hidden creatures in the forest.

- Return to the Explore Abernethy Centre via the circular route of the King's Road Trail. For further fun woodland games and activities to extend your visit see the websites listed. You could visit the Centre for some object handling. The playing field behind the centre would be a good location for packed lunch and free time games.



### Resources needed

- Digital camera
- The Gruffalo — Julia Donaldson (or other suitable forest story book)
- Wee Green Fingers pack (optional)
- Native wildlife soft toys/laminated pictures
- Minibeast hunting guidelines, ID pictures and materials, bug pots





## More information

- Outdoor access code story cards  
[www.outdooraccess-scotland.com](http://www.outdooraccess-scotland.com)
- Local history, wildlife information and leaflets  
[www.exploreabernethy.co.uk](http://www.exploreabernethy.co.uk)
- Information about wildlife and conservation at Abernethy  
[www.rspb.org.uk/reserves](http://www.rspb.org.uk/reserves)
- Reserve designations and management  
[www.snh.org.uk/snhi](http://www.snh.org.uk/snhi) (click on site link and type 'Abernethy')  
[www.nnr-scotland.org.uk/abernethy](http://www.nnr-scotland.org.uk/abernethy)
- Environmental activities and games  
[www.naturedetectives.org.uk](http://www.naturedetectives.org.uk)
- Wee Green Fingers pack – environmental activities for pre school children  
[www.snh.gov.uk](http://www.snh.gov.uk)
- CBeebies songs about animals and nature  
[www.bbc.co.uk/cbeebies/songs](http://www.bbc.co.uk/cbeebies/songs)
- Wildlife facts sheets and posters  
[www.snh.gov.uk](http://www.snh.gov.uk) (click on 'publications', 'search the catalogue', type 'all about series')
- Minibeast identification cards  
[www.communication4all.co.uk](http://www.communication4all.co.uk)
- Minibeast hunting  
[www.ltscotland.org.uk](http://www.ltscotland.org.uk)





## Activity Card: Level One Abernethy – a useful place

How have people used the forest in the past?

Learning intentions of this activity

- Understand that we depend on nature to supply our needs.
- Understand that land area is limited.
- Become aware of issues relating to land use conflicts.
- Understand how the way people use and manage the natural environment has changed over time.

Level One Experiences and Outcomes

- Having explored the landscape of my local area, I can describe the various ways in which land has been used. **SOC 1-13a**
- I can compare aspects of people's daily lives in the past with my own by using historical evidence or the experience of recreating an historical setting. **SOC 1-04a**



**Recommended group size:** Whole class, small group activity

**Time required:** ½ day (or full day with visit to Explore Abernethy Centre and additional forest games and activities)



## Before you go

- Risk benefit analysis
- Outdoor access code story card activities
- Research past and present uses of the Abernethy Reserve — create a drama or song to perform during your visit. You could film it 'on location'
- Mixed media wall display showing forest activities through time

## Activities to do

### Abernethy – a useful place

Base your visit at the Explore Abernethy Centre (GR: NJ 001204) and along the King's Road Trail in Dell Woods. Use some of the features along the way to imagine and recreate living and working in the forest 200 years ago. Please return all materials to where you found them to keep this area as natural as possible.

- Near the entrance to Dell Woods is a restored water lade, dam and sluice that powered a sawmill in the 1860s. Interpretive boards tell the story of these features.
- Continue along the King's Road trail and stop at a stream where you can travel back in time and become a mini forester – plant, harvest, transport and process your own mini forest just like the loggers did in the 1700s.
- In groups, collect small fallen branches and 'plant' them in the ground to create a mini forest, about 8–10 'trees' per group. Please do not use growing trees.
- Harvest the 'trees' (fallen branches) and remove any pine needles or leaves.
- Tie the 'logs' together in a raft and float it down the burn to a site designated as the sawmill. Try to balance a small toy person on the raft to be the logger. Direct the raft using a long narrow stick called a cleek.
- When your raft reaches the sawmill, estimate how much wood you have transported in 'lollypop stick units' – how many lollypop sticks are equal to the volume of your logs?
- Exchange your logs for the estimated number of lollypop sticks which represent sawn planks, and keep these to take back to school.
- Find an open area. Imagine you are different users of the Nature Reserve. Group together to represent: farmers, forest managers, conservation workers, rangers, dog walkers, mountain bikers, bird watchers etc. Think about each group's interests and what they do in the Reserve. With a ball of string connect

groups according to activities and impacts they might have. What have you discovered? Why does this matter to you? Local people? Visitors? Wildlife?

- Return to the Explore Abernethy Centre. For more woodland games and activities to extend your visit see the websites listed. You could visit the Centre for some object handling. The playing field would be a good place for pupils to have their packed lunch.

## Resources needed

- Digital camera
- String
- Small toy people
- Lolly sticks

## After your visit

- Write a poem about the journey of a log from growing as a tree to being part of a ship.
- Create a board game based on Abernethy land use. Include some action spaces based on what you learned from the land use web and outdoor access code activity.
- Make a multimedia presentation of your visit to Abernethy NNR using photo story 3 or a similar slide show package.
- Build a ship with the lolly sticks you collected during your visit.
- Find out about a natural place in your local area — how has it been used in the past? How is it used/managed now? How does this compare with Abernethy NNR?
- Investigate the properties and uses of wood — why was wood used to build ships? What else can it be used for?





## More information

- Outdoor access code story cards  
[www.outdooraccess-scotland.com](http://www.outdooraccess-scotland.com)
- Local history, wildlife information and leaflets  
[www.exploreabernethy.co.uk](http://www.exploreabernethy.co.uk)
- Information about wildlife and conservation at Abnethy  
[www.rspb.org.uk/reserves](http://www.rspb.org.uk/reserves)
- Reserve designations and management  
[www.snh.org.uk/snhi](http://www.snh.org.uk/snhi) (click on site link and type 'Abernethy')  
[www.nnr-scotland.org.uk/abernethy](http://www.nnr-scotland.org.uk/abernethy)

- Resources for investigating woods (numeracy, literacy, geography, science)  
[www.foresteducation.org](http://www.foresteducation.org)
- Environmental activities  
[www.naturedetectives.org.uk](http://www.naturedetectives.org.uk)
- Forest heritage  
[www.forestry.gov.uk/scotland](http://www.forestry.gov.uk/scotland)  
[www.ambaile.org.uk](http://www.ambaile.org.uk)





## Activity Card: Level Two The River Nethy and its watery woodland

What are Riparian Woods?  
Why are they important?

Learning intentions of this activity

- Explore a riparian woodland and discover what makes it special.
- Understand how riparian woodlands contribute to river health and management.

Level Two Experiences and Outcomes

- Through carrying out practical activities and investigations, I can show how plants have benefited society. **SCN 2-02b**



**Recommended group size:** Whole class, small group activity

**Time required:** full day (ideally between May and September for surveys)



## Before you go

- Risk benefit analysis
- Outdoor access code story card activities
- Research riparian woodlands – what are they? How do they benefit rivers? Draw/make a list of features to look for during your visit to Abernethy

## Activities to do: The River Nethy and its watery woodland

Base your visit at the Explore Abernethy Centre (GR: NJ 001204) and the River Nethy Riverside Path. Follow the path beside the river to the small gravel beach and large open area which would be a good gathering and picnic spot. The following activities can be undertaken in three rotating groups using the supporting worksheets.

- **River Survey** – Using knowledge gained through pre-visit research, look at how the river bank trees help the river. Look for branches overhanging the river – these are important for shade, shelter, leaf litter production and are a great source of invertebrates which drop into the river and provide food for fish. Look for areas where roots are holding the bank together or providing sheltered areas for river wildlife. Look for debris in the river branches collecting organic matter/ slowing the flow of the river or decomposing leaves. How many different leaf species are there? Why is this important? (record your findings on the survey worksheet provided). Collect water samples for follow up experiments (see experiment worksheet).
- Investigate the species of invertebrates living in the river by ‘kick sampling’, and turning over stones (using materials available in the Spey Riverbank Box). What do the species present tell you about river health?
- **Woodland survey** – identify and record the range of tree and plant species using the survey worksheet provided. Collect samples of leaves for follow up experiments (see experiment worksheet). Survey and record the invertebrate species on the woodland floor and canopy. What have you found out about this habitat?

- **Personal Response** – Record what you see, hear and feel in and about this habitat through a variety of media – you could sketch or create artwork using natural materials, write poetry, record sounds, take photographs or film. Think about the value of this river and woodland to you, the local community, visitors, wildlife – how can you communicate and share this message?
- Return to the Explore Abernethy Centre. You could visit the centre to learn more about the history and culture of Abernethy and the River Nethy.

## Resources needed

- Digital camera
- Spey Riverbank Box – includes nets, containers for surveying invertebrates and ID sheets, information on kick sampling and other research. Contact SNH office, see page 3.
- Plastic bottles and bags
- Paper, clipboards, pencils
- Minibeast hunting equipment – plastic cups,/pots, spoons, bug viewers/hand lenses
- Sound recording equipment
- Invertebrate, tree and plant ID sheets
- Survey and experiment worksheets

## After your visit

- Experiments to compare responses of ‘forested and deforested’ model river systems to flooding events (see experiment worksheet).
- Experiments to investigate leaf decomposition rates of different riparian woodland species (see experiment worksheet).
- Riparian woodland management debate—landowners versus conservationists.
- Get involved in a practical river conservation project, e.g. ‘Salmon goes to school’. Contact Spey Fishery Board, see page 3.
- Tell your story of the river using notes, sound, images and text created during your visit. Create a multimedia presentation.
- Use Google Earth to compare the habitat around the River Nethy with one in a deforested/plantation forest area—how do you think the rivers in these areas might be affected? What impact might this have on people/wildlife in the catchment? Salmon would be a good species to focus on.



## More information

- Outdoor access code story cards  
[www.outdooraccess-scotland.com](http://www.outdooraccess-scotland.com)
- Riparian Woodlands  
[www.treesforlife.org.uk](http://www.treesforlife.org.uk)
- Tree ID guide  
[www.scottishnativewoods.org.uk](http://www.scottishnativewoods.org.uk)  
then click on education section
- Restoring and Managing Riparian Woodlands – booklet in Spey Riverbank Box or £4 from  
[www.scottishnativewoods.org.uk](http://www.scottishnativewoods.org.uk) in publications section
- Information about river habitats – impacts, pressures and afforestation  
[www.cairngormlearningzone.co.uk](http://www.cairngormlearningzone.co.uk)
- Local history, wildlife information and leaflets  
[www.exploreabernethy.co.uk](http://www.exploreabernethy.co.uk)

- Reserve designations and management  
[www.snh.org.uk/snhi](http://www.snh.org.uk/snhi) (click on site link and type 'Abernethy')  
[www.nnr-scotland.org.uk/abernethy](http://www.nnr-scotland.org.uk/abernethy)
- Wildlife fact sheets and posters  
[www.snh.gov.uk](http://www.snh.gov.uk) (click on 'publications', 'search the catalogue', type 'all about series')
- Minibeast identification cards  
[www.communication4all.co.uk](http://www.communication4all.co.uk)
- Minibeast hunting  
[www.ltscotland.org.uk](http://www.ltscotland.org.uk)
- Other ID cards  
[www.naturedetectives.org.uk](http://www.naturedetectives.org.uk)
- Environmental poetry ideas  
'Talking to the Earth' book by Gordon MacLellan



## Level Two Activity Survey Worksheet



### Minibeast species found in woodland

Name of species	Number found

### Tree species found in woodland

Name of species	Number found



## Level Two Activity Survey Worksheet Continued

### Other plant species found in woodland

Name of species	Number found

### Interpreting The Data

1. How would you describe the variety and quantity of minibeast species found in the woodland?


2. What effect does woodland minibeast diversity have on river health?



3. How would you describe the woodland in terms of species and age of trees and plants? Is it well mixed or the same?


4. Explain why well mixed riparian woodland benefits river ecosystems.


5. Draw any other features of the woodland or river at this location that you think are important for maintaining good water quality and healthy wildlife populations.

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## Level Two Activity Experiment Worksheet



Follow up experiment – testing leaf decomposition rates of different riparian woodland species

### Background Information

"In most ecosystems, plants provide the main source of energy by trapping the sun's energy by photosynthesis. In upland burns and rivers, however, growth of plants can be slow and low in quantity because of low water temperature or limited nutrients. In such watercourses, the main source of energy comes from outside the burn, mainly from leaves falling or being washed into the burn. The leaves are broken down in stages by micro-organisms and invertebrates. The invertebrates are in turn eaten by larger animals, including salmon and trout.

An important factor in the breakdown of these leaves is that different species are processed at different rates. The leaves of some tree species may be broken down within a few weeks, whereas the leaves of other species may still be intact after several months.

### Decomposition Observed

This means that the diverse leaf-litter produced by most semi-natural woodlands will provide food right through the autumn and winter to sustain a rich and productive aquatic ecosystem."

(Source: Edited from "Restoring and Managing Riparian Woodlands, Scottish Native Woods)

### How to do the Experiment

- Put the leaf samples collected at the river into a large bucket and cover them with river water.
- Leave the bucket in a quiet spot in your playground where it won't be disturbed
- At intervals of a few weeks, check the bucket and record what you see. Which species have been broken down? Which species are still intact? How long does each species take to break down?
- What does this tell you about the value of the River Nethy woodland in sustaining the river ecosystem?
- Look back at the results from your river invertebrate survey. Do the results of this experiment help to explain the diversity of species and number of individuals in the River Nethy? Why?

#### Tip

You will need to let this experiment run for at least a few months to get the most accurate results. Remember to check the bucket at regular intervals.

Leaf Species Tested (list in boxes below)

Time Since Experiment Started	Decomposition observed? Yes/No				



## Activity Card: Level Three The River Nethy – explore the catchment

What is a catchment? How do the features of rivers change across their catchment? How are the features formed?

### Learning intentions of this activity

- Identify, measure, record, compare and understand the formation of geomorphological features in a mid and lower river course.
- Develop an understanding of how human or natural impacts in one part of a catchment can have implications further downstream.

### Level Three Experiences and Outcomes

- Having investigated processes which form and shape landscapes, I can explain their impact on selected landscapes in Scotland, Europe and beyond. **SOC 3-07a**



**Recommended group size:** Whole class, small group activity

**Time required:** Full day (transport needed between sites)



## Before you go

- Risk benefit analysis
- Outdoor access code story card activities
- Contact Dorback Estate to agree dates and access (see contacts page 3)
- Research river geomorphology and processes
- Plot River Nethy catchment and fieldwork sites on a map
- Plan observations and measurements and create fieldwork record sheets

## Activities to do: The River Nethy – explore the catchment

Base your visit around the Dorback Burn, River Nethy and River Spey at sites below:

- **Dorback Burn** (GR: NJ 073 164). Parking in small car park on right of road 1km before Dorback Lodge. Dorback Estate must be contacted before any on site visit (see contacts page 3). To avoid shooting seasons visit between end of February and end of June.
- **River Nethy Riverside path**. Parking at Explore Abernethy Centre (GR: NJ 002 164)
- **River Spey** (GR: NH 997 224). This site can be accessed along the Explore Abernethy Broomhill path or by parking beside Broomhill Bridge in large layby.
- **At each site**, observe, measure and record:
  - landforms, vegetation and land use beside the river (natural and anthropomorphic).
  - the river channel – shape, river bed composition, evidence of erosion/transportation/deposition of sediment and glacial material, any changes resulting from flooding. Flow rate and profile of the river channel could be measured.See 'Standard Grade Geography' by Calvin Clarke.

### • Particular features to note:

- **Dorback Burn** – wandering gravel river with naturally changing river channels. Wide variety of rock types can be identified in the gravel bed (compare with samples in Spey Riverbank Box) – How did they all get here? The flood plain is a good example of peat wetland/bog which can hold lots of flood water. No trees.
- **River Nethy** – Riparian woodland (see level two activity card).
- **River Spey** – Manmade flood banks to protect agricultural land. Implications for flooding further downstream.
- Record personal reflections of the different environments and characters of the river within the catchment using photography, film, sound, sketches, natural art or descriptive notes.

## Resources needed

- Digital camera / video camera / mobile phone
- Spey Riverbank Box – which includes measuring equipment
- Measuring tape >10m, tennis ball, stop watch
- Paper, clipboards, pencils, record sheets
- Survey guidelines, recording and observation sheets
- Photographs and diagrams of changes in the rivers in response to flooding

## After your visit

- Collate, display, compare and interpret observations, records and measurements made at each site. Create a presentation of your findings.
- Consider the implications of your observations on how flooding events might affect the catchment. What natural flood mitigation systems operate? What effects have past/present human intervention had? Where in the catchment might the risk of flooding be greatest?
- Creative Activities – reflect and respond personally to your outdoor learning experience through:
  - poetry, e.g. River Haiku
  - write your own Dorback Burn folktale
  - create music that reflects the character of each river section



## More information

- Outdoor access code story cards  
[www.outdooraccess-scotland.com](http://www.outdooraccess-scotland.com)
- Spey Riverbank Box – books and field studies materials. Contact SNH Aviemore office, see page 3.
- [www.cairngormslearningzone.co.uk](http://www.cairngormslearningzone.co.uk)
- Photos of the Dorback Burn with natural changes in channels evident:  
[www.geograph.org.uk](http://www.geograph.org.uk) search for Dorback Burn
- Dorback Burn site report [www.thegcr.org.uk](http://www.thegcr.org.uk)  
search by column, select 13 Fluvial Geomorphology of Great Britain, select GCR Site No: 2222 Dorback Burn
- Guidance on River surveys and field sketching: Standard Grade Geography, Calvin Clarke
- Photos of the Spey – in flood and not in flood  
[www.geograph.org.uk](http://www.geograph.org.uk)
- Maps for comparing river features and historical maps showing changes over time  
<http://maps.nls.uk>

- A source of aerial photos  
[www.192.com](http://www.192.com)
- Environmental poetry ideas, 'Talking to the Earth' book by Gordon MacLellan
- Water related folktales and legends:
  - <http://oaks.nvg.org/scottish-folktales.html>
  - [www.sacred-texts.com](http://www.sacred-texts.com) search for 'water fairies'
  - [www.lenntech.com](http://www.lenntech.com) search for 'water mythology'
- River Flood management  
<http://scotland.wwf.org.uk> search for 'flood planner'
- Solutions to flooding  
[www.wwf.org.uk](http://www.wwf.org.uk) search for 'slowing the flow'
- River Devon case study  
[www.wwf.org.uk](http://www.wwf.org.uk) search for 'River Devon leaflet'
- Flood risk management  
[www.sepa.org.uk](http://www.sepa.org.uk)
- Rivers and their catchments: channel forms and processes – SNH information and advisory note  
[www.snh.gov.uk](http://www.snh.gov.uk) click on publications, then search the catalogue



## Further information

### Outdoor Learning resources

Andy Goldsworthy online catalogue – ephemeral, natural art  
[www.goldsworthy.cc.gla.ac.uk](http://www.goldsworthy.cc.gla.ac.uk)

Forest Education Initiative (FEI) – resources for investigating woods (numeracy, literacy, geography, science)  
[www.foresteducation.org](http://www.foresteducation.org)

Hamish Fulton – art exploring how walking alters perceptions of a space  
[www.hamish-fulton.com](http://www.hamish-fulton.com)

Mission Explore – geography activities with a difference that can be done anywhere  
[www.missionexplore.net](http://www.missionexplore.net)

Primary Earth Science Outdoors – Geological information & activities for primary pupils  
[www.sesef.org.uk/resources](http://www.sesef.org.uk/resources) click on primary

Scottish Natural Heritage – Resources for teaching  
[www.snh.gov.uk/about-scotlands-nature](http://www.snh.gov.uk/about-scotlands-nature)

SCRAN – historical images and media  
[www.scran.ac.uk](http://www.scran.ac.uk)

Tree stories  
[www.spiritoftrees.org/folktales](http://www.spiritoftrees.org/folktales) click on story links

Woodland Trust – Nature Detectives activities  
[www.naturedetectives.org.uk](http://www.naturedetectives.org.uk)

## Outdoor Learning and the Curriculum

Outdoor learning on-line resource

- 'Building your Curriculum: Outside and In' – whole school planning around outdoor learning
- 'Outdoor learning – practical guidance, ideas and support for teachers and practitioners in Scotland'
- 'Curriculum for Excellence through outdoor learning' – guidance for teachers

[www.educationscotland.gov.uk](http://www.educationscotland.gov.uk)  
[www.ltscotland.org.uk](http://www.ltscotland.org.uk)

Outdoor Journeys – A framework for questioning, researching and sharing about a place  
[www.outdoorjourneys.org.uk](http://www.outdoorjourneys.org.uk)

### Cairngorms National Park

Educational resources and projects  
[www.cairngorms.co.uk/learn](http://www.cairngorms.co.uk/learn)

Educational web resource aimed at Higher / Advanced Higher students  
[www.cairngormslearningzone.co.uk](http://www.cairngormslearningzone.co.uk)

### Loch Lomond and The Trossachs National Park

[www.lochlomond-trossachs.org](http://www.lochlomond-trossachs.org)

### Scotland's National Nature Reserves

[www.nnr-scotland.org.uk](http://www.nnr-scotland.org.uk)

### Abernethy NNR

[www.snh.org.uk](http://www.snh.org.uk)  
[www.rspb.org.uk/reserves](http://www.rspb.org.uk/reserves)  
[www.exploreabernethy.co.uk](http://www.exploreabernethy.co.uk)  
[www.nethybridge.com](http://www.nethybridge.com)





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[www.cairngorms.co.uk](http://www.cairngorms.co.uk)

**Scottish Natural Heritage**  
South Highland office  
Achantoul  
Aviemore  
Inverness-shire, PH22 1QD  
Email: [south\\_highland@snh.gov.uk](mailto:south_highland@snh.gov.uk)  
[www.snh.gov.uk](http://www.snh.gov.uk)

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