Scottish Natural Heritage is a government body that works to conserve and enhance Scotland’s wildlife, habitats and landscapes.

We aim to help people better understand and enjoy Scotland’s natural heritage so that it can be sustained for future generations.

Forestry Commission Scotland

Forestry Commission Scotland is the forestry department of the Scottish Executive, advising on and implementing forestry policy.

Our mission is to protect and expand Scotland’s forests and woodlands and to increase their value to society and the environment.

Cairngorms National Park

Set up in September 2003, the Cairngorms National Park is the largest in Britain.

The park is a refuge for a host of rare plants and creatures, including 25% of the U.K’s threatened species.

FARLEITTER CRAG TRAIL 3.5kms/1.5hrs
ALLT MOR TRAIL 5.5kms/2.5hrs
RYVOAN TRAIL 7kms/3hrs

Discover the dramatic story of the Cairngorms with these pictorial guides to 3 family walks
Ancient peaks and molten rock...

These mountains have not always looked as they do today...400 million years ago, long before the dinosaurs, they were part of a huge mountain chain, higher than the Alps, that stretched from North America to Norway. Beneath those mountains molten rock solidified into granite.

Tropical mountains...

Millions of years of erosion wore down those craggy mountains and periods of warm, wet climate left rounded granite summits and shallow valleys. Today, that ancient rolling landscape can still be seen on the high Cairngorm plateau but elsewhere, the Ice Age glaciers changed things completely.

Ice Age glaciers...

Over the last 2 million years, global climate fluctuated regularly and Scotland had up to 18 distinct Ice Ages. In the Cairngorms you can see signs of ice action everywhere. Steep glens and corries, ice scoured rocks and vast heaps of sand, gravel and other rock debris are just a few of the features left behind by the glaciers.

Cairngorms today...

Today the Cairngorms are still changing, and frost, floods, landslides, peat formation, and human activity all continue to leave their marks on the landscape.
ALLT MòR

Use our artist's impression to uncover evidence of the Allt Mòr’s icy past.

creeping BOULDERS SURFING stones

It may not look like it, but in places soil and rocks on the higher slopes are slowly creeping downhill.

In spring, as deeply frozen ground thaws, water is trapped in the soil and the soggy mix carries rocks and plants down the slope. This is solifluction; it's typical of arctic climates. Over the thousands of years since the glaciers melted, solifluction has formed crescent shaped lobes on many mountains. Can you spot any on the slopes above?

BULLDOZERS at work

Look at the middle part of a scar. What you see is not just stony soil... it’s a mixture of rocks and mud left behind by a glacier 15,000 years ago.

This glacier came from the huge icefields that covered most of the Scottish Highlands at that time. Acting like a monster bulldozer, the ice pushed rocks and mud before it, plastering the mountainsides and leaving mounds and ridges known as moraines. The moraines here could have come from up to 50kms away, perhaps from the Loch Laggan area.

ICY KNIFE cuts gorge

How was this huge gorge formed? To find the answer, we must go back to the Ice Age.

15,000 years ago, a glacier filled Glenmore and every spring and summer a deluge of icy meltwater would have poured from the ice. This water thundered east along the edge of the glacier, eroding a deep glacial meltwater channel. But notice the bend in the channel. The edge of the glacier extended east-west so why does the channel suddenly turn north?

At this point the meltwater river, finding a weak point, plunged under the ice, cutting a new channel at an angle to its original course.

Look for rounded boulders at the tops of the scars... that’s the bed of the ancient meltwater river, still visible today.

DEEP heat

Over 400 million years ago, Scotland was part of a massive mountain chain, higher than the Alps. Deep within those mountains bubbled the molten rock that was to solidify into the granite heart of the Cairngorms. Feel the roughness of a granite boulder and look for crystals of its three minerals;

- quartz (clear)
- feldspar (pink or white)
- mica (black)

Cairngorm granite contains a lot of feldspar and often appears pink; the Gaelic name for these hills is Am Monadh Ruadh, the red hill-range.

SCAR tissue

How old are these scars? Most of them are over 100 years old. They are landslips, caused when massive, but very infrequent floods, cut into the gorge sides. The last recorded flood of such a huge size was the Muckle Spate of August 1829.

Over time falling stones pile up and cover the cut with 'scree', but this is often swept away by further smaller floods, so the scars remain looking fresh.

trickle to TORRENT

Don’t be deceived, the Allt Mòr, is a truly wild river and after summer thunderstorms or rapid snowmelt, it can quickly become a raging torrent. Boulder-moving floods are rare, say 50 years apart, but every day small stones and sand are flushed downstream. Over thousands of years, all this material has settled to form a broad alluvial fan, now hidden by forest.

TAKEN CARE! MAIN ROAD.
Before you start

• This trail follows the Allt Mòr river. Allt Mòr is Gaelic for ‘Big Burn’. There are no Trails Through Time signs on the ground but the gravel path is easy to follow.

• You can join the trail at several points but most people start at the Allt Mòr Car Park, follow the path up to the Ski Car Park and return by the same route. See ‘HOW TO FIND THE ALLT MÒR TRAIL’.

• Allow 2.5 hours for a family to walk the 5.5kms up and back, at an easy pace. Our artist’s illustration is not to scale.

• Don’t feel like walking uphill? Catch the bus to the top and walk down. (Phone 01479 81 1 21 1 for bus times, or visit www.rapsons.co.uk)

• WATCH CHILDREN... after the bog wood, the path crosses a main road.

• BEWARE steps and boulders make the path unsuitable for prams, wheelchairs and bicycles.

• See Ordnance Survey Landranger map 36 for more detail.

Take Care!

This is one of the wildest environments in Britain! Let someone know where you are going and always be prepared for bad weather, with warm, waterproof clothing, strong footwear and something to eat.

From Aviemore take the road to Coylumbridge and the Ski Centre. The Allt Mòr Car Park is on the left about 7.5kms from Coylumbridge and just over 1km after Glenmore Visitor Centre.

Alternatively, park in the main Ski Car Park and start the walk from below the information centre.

TAKE THE FAMILY on a trail through time along the dramatic Allt Mòr gorge and discover how the raw power of ice and water shaped this wild landscape.

ALLT MÒR
TRAILS THROUGH TIME

If you enjoyed this trail why not explore other river walks in the area?

• Walk by the River Nethy at Abernethy; call the Explore Abernethy centre on 01479 821565, or visit www.nethybridge.com

• Walk the River Feshie from Feshiebridge to the Insh Marshes Nature Reserve; call 01540 661518 for details of summer guided walks.

• Follow the Speyside Way at Aviemore or Grantown-on-Spey, contact the Ranger Service on 01340 881266, or visit www.speysideway.org

For a more strenuous summer walk, call at the Information Centre and collect a Coire Cas Walk leaflet from the Ranger

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Illustrations: Janet Swailes (janet.swailes@ntlworld.com)
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20,000 years ago this area was filled by the Strath Spey glacier, one of Scotland's biggest and fastest moving at over 30 metres a year. When it melted, it left polished bedrock, littered with the rocks that had been frozen to its base. Today the once smooth bedrock lies cracked in untidy slabs. Look on the gentle slope behind the erratic: why is it all cracked up?

Lift a weight off a sponge and see it regain its original shape. That's what happens to rock once the heavy ice melts; the rock moves back up and cracks open. The weight of the ice sheets depressed all of Scotland and even now some parts of the country are still rising.

Farleitter Crag is known as a roche moutonnée, or ‘rock sheep’. Had you been here 20,000 years ago you wouldn’t have seen the Crag because this whole area was buried under a glacier over 1km thick. Imagine the weight and pressure exerted by that much ice. The glacier’s underside, plastered with wet mud and studded with rocks, acted like a giant scouring pad wearing away the softer rock around Farleitter to leave the distinctive smooth slope of the Crag’s south west face.

As the ice moved over the north east side of the hill it froze onto the rock and then tore chunks off as the glacier moved onwards. Over time this plucking action steepened the side of the hill forming the steep craggy cliff we see today.

This area would have looked like a watery moonscape, littered with huge chunks of decaying ice, half buried in sand and gravel.

One of these ice chunks ended up where the lochans now lie and its steep sided imprint, known as a kettlehole, became a lake of milky coloured meltwater.

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What made the paw print shape of Uath Lochans? It may look as though a giant wolf stepped here but the lochans were really formed by something almost as strange, a massive chunk of ice. At the end of the last Ice Age the climate warmed quickly and within a few decades the huge Strath Spey glacier began to melt and break up, releasing torrents of sediment-laden meltwater every summer.

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Imagine the power needed to move this huge boulder. Glaciers can carry rocks like this for thousands of kilometers and when the ice melts they often get left in dramatic positions, far from their origins. These rocks are called erratics.

See how the surface of this erratic is cris-crossed by white quartz veins and feel how the hard quartz stands out from the rock. The quartz under the erratic doesn’t protrude as much, because the rock underneath is sheltered from the elements.
If you enjoyed this trail
why not visit other roche moutonnée at....

• Tor Alvie, above Loch Alvie (map ref: NH877088)
• Dulnain Bridge near Grantown on Spey
  (map ref: NJ003253)

Visit other kettleholes at...

• Loch Morlich (map ref: NH965095)
• Loch Insh (map ref: NH830045)

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Take Care

- Keep dog on lead
- Keep dog on lead
- Keep dog on lead
- Keep dog on lead
- Keep dog on lead

KEY TO LOST LANDSCAPES

Pollen

Geologists from Stirling University and pupils from Kingussie High School extract pollen at Uath Lochans. © D.Carstairs/SNH

CLAMBER up Farleitter Crag

or stroll round mysterious Uath Lochans and you walk over a treasure trove of landscape secrets
The main path is shown by OOOO

**ICY conveyor belt**

Ice melts without trace but glaciers leave marks and here in Ryvoan we can unravel the story of the last Glenmore glacier by looking at what it left behind. Like a massive conveyor belt, the glacier scraped up and carried a mix of rocks and mud along with it. When the ice melted, this debris was left behind as mounds and ridges we call moraines. Scotland has a vast legacy of this type of glacial material; it’s used to make tracks and roads all over the country. Take a closer look at some moraines... rounded rocks have been smoothed by ice and meltwater and are from inside the glacier. More angular rocks escaped grinding and were probably carried on top of the ice.

**Glacial ESCAPE ROUTE**

The glaciers that carved the narrow funnel of Ryvoan were being pushed from behind by the huge Spey Glacier pressing northwards. Moving at over 300 metres a year, this glacier was fast and powerful and little could stand in its way.

Imagine the Pass filled with powerful, moving ice, relentlessly forcing a way through and shattering the rock sides by sheer pressure. Each successive glacier widened and deepened the channel carved out by its predecessor and Ryvoan’s distinctive U-shaped cross section is the sure sign of a valley cut by ice, not by a river.

**Tell-tale ‘tide marks’**

Scotland’s Ice Age lasted two and a half million years. During that time the temperature fluctuated and glaciers melted and reformed as many as 18 times. We know that ice, from the huge Spey glacier to the SW, filled Ryvoan several times and flowed towards Abernethy Forest. Sometimes the ice covered the top of the Pass, spreading over the surrounding hills and scoring level ‘tide marks’ at its edges. Look out for these tell-tale marks on the hills above Ryvoan; they show the height of the ice at different times in the past.

**Surfing trees, STRIPY screes**

The trees up here lead precarious lives, in fact they’ve been known to go surfing down the scree slopes. There’s constant subtle downward movement of rocks, vegetation and water on these unstable slopes. Most of the time there’s little visible movement but heavy rain or disturbance can suddenly sweep chunks of slope downhill, giving the stripy, part forested appearance you see here in Ryvoan.

Water trickling through these screes contains very few plant remains; that’s one reason for the Green Lochan’s unusual colour. Not everyone agrees though; old tradition says the colour is due to fairies washing their clothes in the water. Which explanation do you prefer?

**Glacier’s LAST GASP**

Today Ryvoan is peaceful, but 15,000 years ago, as the glaciers melted at the end of the Ice Age, this was a dangerous and noisy place. Torrents of meltwater thundered through the Pass, blocks of ice toppled from the edge of the glacier and razor sharp rocks clattered down from the cliffs above. At that time the glacier completely blocked the Glenmore end of the Pass and so all the meltwater was forced east towards Abernethy. Only when the ice finally lost its grip on Ryvoan could water flow naturally. Which way does the water flow today?

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**Hidden SUBWAYS**

Glaciers aren’t just solid ice; they contain hidden tunnels running with huge quantities of water, sand and gravel. Sometimes all this material can even block the tunnel completely. Eventually, when the ice melts, a narrow winding ridge of sand and gravel called an esker, is left stranded. The steps down to the Green Lochan are cut through an esker.

Imagine standing in the darkness of that icy subway with thousands of tons of moving ice creaking and groaning all around.

**ELEPHANTS**

Have you noticed the ‘elephants’?

Although there are no records of real elephants in the Pass, these ones are known and loved by local people.
Believe it or not, Ryvoan's dramatic scree slopes were once the floor of an ancient ocean. That ocean closed up 400 million years ago and its muddy floor was buried several kilometres deep in the earth's crust. Down there, intense pressure and heat cooked and squeezed the ocean sediments into pinky grey schist rock. For millions of years the schist lay buried, but when the glaciers chiselled out Ryvoan's sheer cliffs, it was at last exposed to daylight. Long after the ice melted, rocks continued to shatter and crash down, building these dramatic scree slopes. But the journey hasn't stopped for the schist... little by little it erodes back into sand and mud. Today the cliffs have worn back to safer, more gentle angles and rockfalls are very rare... stop and enjoy the silence.

Slowly, in the wake of the ice, vegetation gained a foothold. Then came wild Caledonian woods and forest animals. People followed... the earliest people left few traces and we can only guess at who they were, but a flint arrowhead, found high on the Cairngorm plateau, tells us that they hunted here over 5000 years ago. The remains of an old limekiln also tell us that people discovered limestone here and probably used it to fertilise local fields.

Until recent times, Ryvaon Pass was the main route to Glenmore; hunters, traders, woodcutters, soldiers and countless unknown others have travelled this way. At one time, for reasons we can only guess, Ryvoan Pass even earned the fearsome reputation of being 'The Robbers' Road!'

If you enjoyed this trail why not find out more about the early inhabitants of the area by visiting...

- The Highland Wildlife Park near Kingussie. phone 01540 651270 or visit www.highlandwildlifepark.org
- The Highland Folk Museum near Newtonmore. phone 01540 661307 or visit www.highlandfolk.co.uk
- Glenmore Forest Park Visitor Centre in Glenmore. phone 01540 861220 or visit www.forestry.gov.uk
- For another Ryvoan walk, pick up a Ryvoan Pass self guided tour leaflet at the Explore Abernethy Room in Nethy Bridge (tel 01479 821 565 for opening times)

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