

**Guided walks in groups of no more than 6 adults allow for a relaxed and personalized experience. Discounts are offered for groups of 4 or more adults. Children between 10 and 14 free.**

The walks are not recommended for children under the age of 10.

Older children must be accompanied by an adult at all times.

Most of the routes offered by Durness Deep Time are on flattish land with occasional modest clambering.

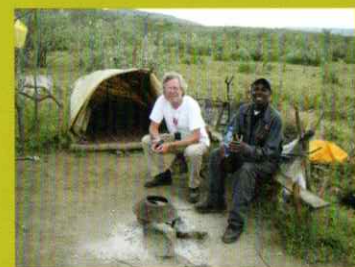
However, ground may be slippery, so it is of utmost importance that walkers have on proper footwear.

Scottish weather is notoriously unreliable and therefore we ask our visitors to dress warmly and according to conditions. We cannot take responsibility for any injuries or damage to equipment such as cameras.



**Dr. Björn S. Hardarson** qualified with a BSc in Geology at the University of Iceland and completed his PhD at Edinburgh University in the early nineties.

Over 15 years he specialized in igneous geochemical and tectonic research at Edinburgh and Glasgow Universities, later spending 12 years with the Iceland GeoSurvey working on geothermal energy.



Björn is deeply involved with the Geothermal Training Programme of the United Nations University (UNU-GTP) assisting developing countries with geothermal exploration, mostly in east Africa.

Björn moved back to Scotland a few years ago and now lives in Balnakeil Craft Village with his partner, painter Ishbel Macdonald.



## About us



At 'Durness Deep Time', geologist Dr. Björn S Hardarson has created an interpretative exhibition which explains the geology and archaeology of the Durness area. For those interested in gaining a deeper understanding of the geology of the local landscape, Björn offers a range of guided walks tailored to all ages and levels of knowledge.



**Guided walks** are designed to complement the exhibition and vary from a relaxing 2 hours to a full day tour. Björn will share his expert knowledge and insight into the tremendous forces which have combined to create the magnificent Durness landscape. Walking groups are of no more than 6 adults.



**Opening hours: 10 am - 6 pm daily from April - October.**

**At other times please contact us.**

Please follow the Scottish Outdoor Access Code. For more details: [www.outdooraccess-scotland.com](http://www.outdooraccess-scotland.com).

Durness Deep Time is located within The North West Highlands Geopark ([www.nwhgeopark.com](http://www.nwhgeopark.com)).

## Geology Exhibition and Guided Walks

### Durness Deep Time

**Balnakeil Craft Village, Durness, Sutherland**

**Please call or e-mail us for more information**

e-mail: [bjornsh100@gmail.com](mailto:bjornsh100@gmail.com)  
[www.durnessdeeptime.com](http://www.durnessdeeptime.com)  
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# Walking Through Time

We offer a range of guided walks exploring the geology and human occupation of the Durness area. The walks vary from 2-5 hours (longer if desired). We do not have a set schedule for our outings. Visitors may contact us by phone or e-mail or by visiting "Durness Deep Time". Our walks are interactive and we are happy to be flexible. Our aim is for you to have the best possible experience during your visit. The walks usually start at "Durness Deep Time" in Balnakeil Craft Village, with a short illustrated talk introducing you to the geology of the area. In some cases, we will have a short drive to our starting point.



**Durness** sits on limestone formed in an ancient warm ocean, the lapetus, which disappeared due to the collision between continents. Abundant fossil remains of primitive life can be found in the rocks of Balnakeil Bay.

## Walk no. 1: Balnakeil Bay and Early Life

Discover fossilized stromatolites and planolites which provide a record of ancient life on Earth. Stromatolites may be largely responsible for increasing the amount of oxygen in the primeval atmosphere leading to the evolution of complex lifeforms. This is a shoreline walk which can be slippery. Duration approx. 2 hours, 3 km, £15 per person (Times depend on tides).



**The Moine Thrust.** In the NW Highlands of Scotland we find rocks which are about 3 billion years old, among the oldest on the planet. In this "Cradle of Geology", the Moine Thrust is recognized as one of the most significant crustal displacements of its type anywhere in the world.

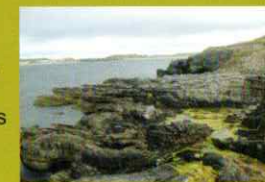
**Walk no. 2: The Moine Thrust and Tales of Vikings.** We walk along Balnakeil Beach towards Faraid Head. We will come across rocks which were formed under semi molten conditions deep in the crust as two continents collided. On our way we see excellent exposures of the Moine Thrust and exotic metamorphic minerals. At the site of a Viking burial, your guide will explain the ties between the Norselands and NW Sutherland. This walk can be extended to include the site of an iron age fort, destroyed by Vikings in 1263, and the pre-clearance township of Aodann Mhor. The walk is on a beach and track and may be boggy in places. Reasonable level of fitness. Duration 3-4 hours, £23 per person (shorter walk, 7 km), 4-5 hours (extended walk, 10 km), £28 per person.

## Cambrian Explosion

About 540 million years ago one of the most important evolutionary events in the history of life on Earth occurred when the first complex creatures appeared. This period is known as the "Cambrian Explosion", and the limestone at Eilean Dubh, Balnakeil Bay, dates back to this time.

## Walk no. 3: Eilean Dubh and the Beginnings of Life.

We walk along the cliffs at the west side of Balnakeil Bay. Here we see several Durness Limestone formations created in the ancient lapetus Ocean. We will see the fossil remains of stromatolites, the oxygen producing "engines" of the ancient ocean. We go back in time through sea level changes over several millions of years. The walk is on rough ground with occasional steep paths. Duration 3-4 hours, 5 km, £23 per person.



**Human Occupation.** There is clear evidence of human population in the fertile Durness area possibly dating back 6-7 thousand years. We can see evidence of bronze age hut circles, iron age duns and chambered cairns, Viking settlement, and pre-clearance villages. An early Christian monastery was established at Balnakeil, in Gaelic, Baile na Cille, "The Place of the Church".

## Walk no. 4: Loch Croispol and Loch Borrallie.

We walk from the Craft Village to Loch Croispol Schoolhouse ruin, built in the 1760s. At the southwestern edge of the loch we find the remains of several roundhouses from the bronze age. As we skirt Loch Borrallie we see the remains of an iron age dun, a semi-buried pre-clearance village and traces of a Viking settlement. Place names such as Borrallie and Hakon's Bowl inspire stories of Norse incursion. This walk can be extended to include limestone pavements on the east side of Loch Borrallie. They are one of the most unusual landforms in Scotland and provide a habitat for rare arctic-alpine flora. Fossils such as cephalopods may be seen.

The walk is over rough and occasionally boggy ground, with some hills. A reasonable level of fitness is needed. Duration 3-5 hours, £23 (shorter walk, 4 km), £28 (extended walk, 7 km) per person.

## Glaciation

The last Ice Age in Scotland ended 12-14 thousand years ago. Glaciers, like great earth movers, have fashioned the landscape through erosion, smoothing and moulding the bedrock, transporting and depositing rock debris on land and off shore. **During all of our walks, your guide describes the formation of glacial landscape such as U-shaped valleys, corries, moraines, drumlins, whalebacks and erratics.**

