

Inchnadamp Bone Caves

**SCOTTISH
NATURAL
HERITAGE**



National Nature Reserve

These four north facing Bone Caves of the Inchnadamp National Nature Reserve look out from the base of the limestone Creag nan Uamh over the Allt nan Uamh glen. At the head of the glen, the ancient calving grounds of the reindeer are seen on the slopes of Breabag.

Reindeer Cave and Bone Cave are connected by a narrow passage which children can crawl through.

The caves give us a unique glimpse back in time revealing what animals lived here during the last 45,000 years. From arctic polar bears and northern lynx, to the hyenas and hippos of warmer climes, many different animals have left their mark on the Bone Caves of Creag nan Uamh. Join us on a journey to explore their fascinating history.

In the Footsteps of History

When you follow the steep and winding path to the bone caves, you are treading in the footsteps of some of our best known explorers.

It is said of Ben Peach that, when working in the Northwest, he would work long hours but would

take every third day off and go fishing. He may not have had much luck, because there are no lochs up the glen of Allt nan Uamh, and not much in the way of rivers either, but world-famous geologists Peach and Horne found something just as rewarding.

While surveying the geology of the area, they must have come across the Creag nan Uamh bone caves and in 1889 they partially excavated the mouth of one of them and found pieces of animal bones.

Bear Bones

During a visit in 1925, another well-known geologist, J E Cree, found the incisor tooth of a bear and two pieces of reindeer antler in one of the other caves. He returned the next year with his colleagues Callander and Ritchie to excavate the caves we now know as Badger Cave and Reindeer Cave.

This excavation was more thorough than Peach and Horne's 1889 dig. They found pieces of frog, land snails and the lower jaw of a wildcat. Later tests with smoke proved that Bear Cave was connected to Reindeer cave, but there is no passageway to link the caves today.

Ancestral Burials

The most exciting finds were found in Reindeer cave, including the first human remains. A human skull, with both upper and lower jaws missing was found in a small stone enclosure, which suggests a burial. A second burial was found in the narrow crack at the back of the cave. These bones were

found in a confused heap, lightly covered with cave earth. Bones of four people have been radiocarbon dated to between 4,515 and 4,720 years old. An object made from red deer antler has been dated as 850 years old.

Nearly 1000 fragments of reindeer antler have been found and these have been aged at 47,000, 25,000, 23,000 and 8,300 years old. The antlers were from female and young male reindeer, which suggest that the slopes at the head of the glen might have been their calving grounds.

A Lonely Linx

Perhaps the most exciting find was the skull of a Northern Lynx dated at around 1,770 years old, which was found at the back of the inner cave in 1927. This is the only Northern Lynx site in Scotland. How did it get there? There was probably a gap in the roof of the cave and the lynx could have crawled in and died or been dragged there by another animal. Bones of arctic lemming, arctic fox, wolf and brown bear were also found.

Polar Bears in Scotland?

Another interesting find is that of a probable Polar bear. This was discovered when the 1927 remains were recently re-evaluated. It has been aged at around 18,855 years old. We must remember, though, that the bones of Polar bear and limpet shells could have been dragged in by other animals from a distance.

All of the animal bones are important in Scotland, because they are the most complete record of the

last glacial period (the Middle and Late Devension) found in Scotland. Researchers think that the bones were washed in by meltwater from the glaciers that covered Scotland at that time. There is no evidence that people lived in the caves, although they may well have been used for hunting trips. They seem mostly to have been used by animals.

There is still a cloak of mystery around the caves, and we will only find the answer by exploring the remains further. There are no plans at the moment for more digging as it is hugely expensive to mount a proper archaeological dig. In the meantime, we ask you not to damage the deposits on site. The lynx and polar bear skulls and some reindeer antlers are on permanent display in the Museum of Scotland in Edinburgh. Casts of some of the material are on display in the Assynt Visitor Centre in Lochinver.

Our Wooded Past

More recently remains of red and roe deer, rabbit, badger, red and black grouse and even pine marten have been found in Connecting Passage. These suggest that around 4,200 years ago, after the last Ice Age, the area was wooded. Perhaps the Allt nan Uamh glen was full of birch and willow 4,500 years ago. Certainly there are remnant trees growing on the steep sides of shallow holes – areas where the ground has collapsed into an underground channel.

Hyenas and Hippos

The last Ice Age, known as the Quaternary, lasted for about 2 million years, with cycles of ice building up then melting every 100,000 years or so. We are in an interglacial now, and the last interglacial was around 125,000 years ago. At that time Britain would have been covered in trees and it was warm enough for hyena and hippopotamus. We haven't found any remains of animals from this period in the Creag Nan Uamh caves.

Around 115,000 years ago the climate became colder and drier and the vegetation changed to tundra. The tundra was grazed by reindeer 40,000 years ago and they were hunted by bear and wolves. Around 25,000 years ago it became colder and wetter again and glaciers started to build up until 18,000 years ago when the ice retreated again. By 13,000 years ago the ice had gone, although it came back briefly 11,000 years ago for around 1,000 years.

An Ice-Carved Landscape

Massive glaciers would have carved out the Traligill and Allt nan Uamh glens. The cave systems would have started to be formed more than 200,000 years ago when the water-resistant schist had been eroded from above the softer limestone. Water then began to drain into the limestone, dissolving the rock and causing the cracks in the rock to widen and form cave systems. Today there are 13 caves in the Allt nan Uamh glen and 19 in the Traligill Basin.

At this time the glen floor would have been of the level of the Cnoc an Uamh and Creag nan Uamh caves. When the glaciers lowered the levels of the glen, the Bone Caves were left where we find them today – high and dry.

Exploration is continuing today through this cave system and perhaps one day we will know the full story of how they were formed and who or what lived in them.

List of Species (recorded from excavations at the Bone Caves - compiled by Tim Lawson in 1996)

Mammals

Arctic Fox

Arctic or Collared Lemming

Badger

Bank Vole

Brown Bear

Common Shrew

Field Vole (identification not confirmed)

Hare

Northern Lynx

Northern Vole (identification not confirmed)

Otter

Ox

Pig

Polar Bear

Rabbit

Rat Vole

Reindeer

Stoat

Tundra Vole

Water Vole
Weasel
Wild Cat
Wolf
Wood Mouse

Birds

Barnacle Goose
Chaffinch
Common Scoter
Eider Duck
Golden Plover
Long tailed Duck
Mallard
Mute Swan
Puffin
Red Grouse
Teal
Tufted Duck
Wigeon

Others

Fish
Frog
Natterjack Toad (this is from an old record but the material is not available to check)
Salmon or Trout
Road
Man (two separate sets of remains)

The significance of the Bone Caves is recognised by their designation as an Ancient Monument by Historic Scotland and as a Site of Special Scientific Interest by Scottish Natural Heritage. Please respect this important site.

The Bone Caves are situated 4km/2 miles south of Inchnadamph on the A837.

There is a good 2km/1 mile path from the car park of the fish hatchery to the Bone Caves but it does go over some rough and steep ground so please take care at all times. Similarly, though the caves' entrance chambers may be examined standing up, care should be taken at the rear of Reindeer Dave where it drops down to a crawl way.

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