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Soil Walks: New Forest, Hampshire

What is a soil walk

Soil is one of the most wonderful things in nature This precious material that is under our feet wherever we walk enables our food to be grown, our wonderfully diverse flowers and trees to grow, our buildings, roads and railways to be supported, and is the home of billions of different organisms. Soil is amazing.

There are an astonishing number of different soils - over 700 in the United Kingdom. In each landscape there will be several different soils. Walking through a particular landscape near your school or your home is the best way to discover interesting things about your local soils. Come and take part in this Soil-Net Soil Walk and see for yourself your local soils, how they differ from each other, and

The New Forest Ponies

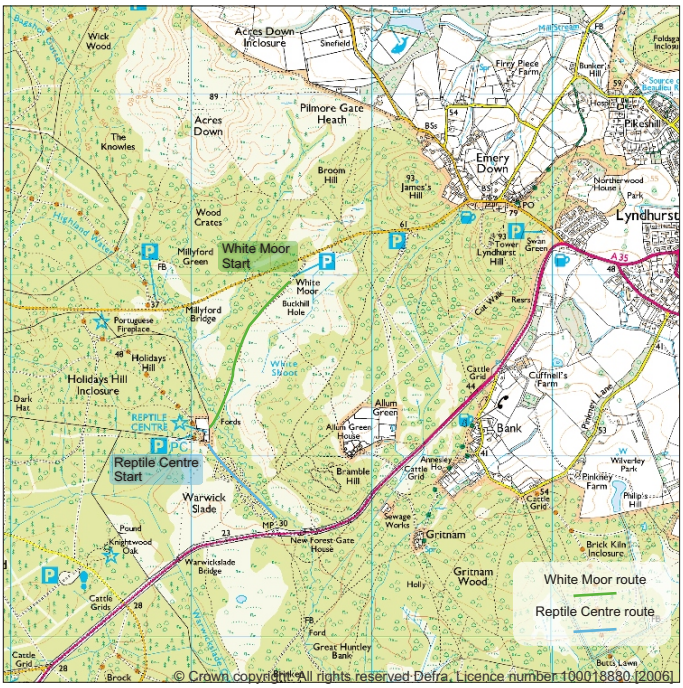
The Soil Routes

Both these routes introduce you to the rich brown forest earths of the New Forest. Not only is it a scenic area but is also an area of outstanding ecological importance. There are two linked walks. **Walk One** commences at the White Moor car park, passing to the Reptile Centre and back. **Walk Two**, being suitable for disabled access, commences at the Reptile Centre, passing along the track adjacent to the river and back.

A fine New Forest Beech tree

Travelling there and starting off

White Moor - Walk One: Start at OS reference SU 275 080. Use the White Moor carpark.
Reptile Centre - Walk Two: Start at OS reference SU 270 071. Use the Reptile Centre carpark (note there is a fee).

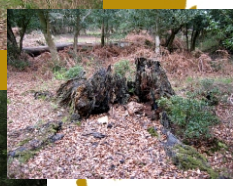


Routes

Both routes are fairly gentle but can be muddy. The White Moor walk passes across a stream, so gumboots or sturdy shoes are advisable. Allow an hour to an hour and a half for each route, which will give plenty of time to look around the forest. Don't forget to visit the fascinating Reptile Centre as well. Both the White Moor area and the New Forest Reptile Centre are owned and managed by the Forestry Commission.

Soil Walk

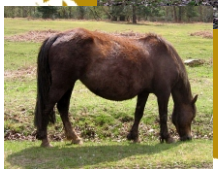
Park in the Forestry Commission White Moor



This old tree stump shows how old trees rot down

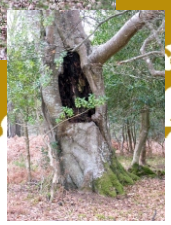
Continue along the edge of the wood. Notice the open heath and vegetation.

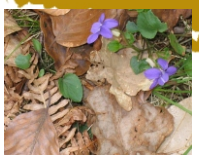
Bracket fungus



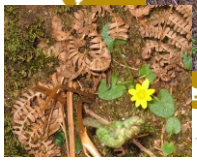
The wood closes in on both sides of the track.

Approaching the stream.





Notice the roots sitting on top of the thin eroded



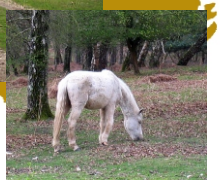
Cross the stream at the

Celandine and Bracken

Soil Walk

Standing in the middle of the ford

Approaching Warwick Slade.



Arriving at the Reptile Centre.

Adders in their pen in the reptiliary.

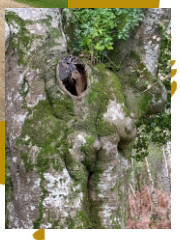
After visiting the Reptile Centre, return along same path to

Soil Walk

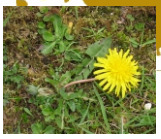
The Reptile Centre Route is suitable for

Park in the Reptile Centre car park

Set off down the track.



Follow the track round, through the



Flowering moss by the trackside.

Soil Walk

The Reptile Centre Route is suitable for

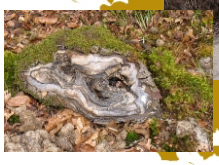
Path crossing bridge to left of main track.

Old tree stump

Bridge over the stream.

Beech trees beside track

Return back along the track to



Back to the Reptile Centre.

Lizards in their pen in the Reptile

Soil Walk

History of the New Forest

There are no major earthworks or Roman villas in the New Forest, there is however some prehistoric and Roman archaeology in the Forest. To learn more you can visit the New Forest museum in nearby Lyndhurst.

The New Forest became important after it was created a royal hunting forest by King William the Conqueror in 1079. Special laws were passed to protect the forest and the deer, and even today the area has its own special forest laws. Guardians named 'Verderers' oversee the rights of people living in the Forest ('Commoners') to collect wood for fuel and to run ponies, cattle, pigs and donkeys loose on the forest pastures.

The Rufus Stone, near Minstead marks the spot where King William II (William Rufus) was killed in 1100 in a hunting accident.

At Bucklers Hard near Beaulieu many Royal Navy warships were built during the wars against the French, including Lord Nelson's favourite ship, the 'Agamemnon'. Many oak trees were planted at that time to supply timber for future warships, and these are now mature but no longer needed, as modern warships are not built of wood!

In World War 2, ten airfields were built in and around the Forest and the remains of some of the runways can still be seen today.

The Forest is now a major area for recreation and in 2005

Soil-Net are grateful to the Forestry Commission for their assistance with this soil walk.

The Soils

Characteristic soils of the ancient deciduous woodland inclosures of the New Forest are non-humic luvic gley soils. An upper loamy or sandy eluvial horizon overlies an appreciably finer textured B horizon that is slowly permeable. The textural change can be very abrupt.

The woodland inclosures have been managed for timber over the ages and now contain a number of broadleaf species, particularly areas of oak and beech. Holly is a common species in the understorey.

Some areas of humus podzols in the New Forest have been afforested with pines. These soils commonly have thick Ea horizons and a relatively thin Bh horizon.

Typical Andover soil profile

The History and Development of the Soils

Most of the soils you will see date back over 10,000 years. It takes over 500 years for just one centimetre of soil` to develop from chalk rock. This is because chalk is so pure and when it dissolves there not much left with which to build up the soil.

When the Ice Age was here many thousands of years ago, pretty well all soils were scraped away and mixed up and the materials transported to various parts of the landscape. The cold weather associated with the Ice Age led to freezing and thawing and mixing of soil materials. Whereas some of the soils that you see are formed directly from the chalk rock below, others are formed on mixed materials (known as drift) that were left when the ice melted. The Carstens soil on the top of the St Catherine's Hill is an example of a soil which is formed in drift.

On the steeper slopes of St Catherine’s Hill are soils called rendzinas. These are shallow soils with the topsoil lying directly on the chalk rock. The soils are shallow because on the steeper slopes there is always some erosion of the soil and particles are constantly being moved to the bottom of the slope So on the steeper slopes the soil materials are subject to regular movement and replenishment.

The youngest soils are probably those in the bottom of the Itchen valley. The soils here are formed in sediment deposited by the river together with materials that have been washed off the valley sides.

There are five main influences that govern what soils form in a particular spot. On this walk, the main influences are the underlying rock and the geological history. A particularly important point is that pretty well all the soils are derived from chalk rock or sediments from it and are therefore calcareous and suitable for plants that like lime and a high pH.

A second important influence on the soil is the landscape. The deepest soils will be in the bottom of the river valley, the thinnest soils will be on the steeper slopes of the hill. On the top of the hill will be moderately deep soils. The soils on the slopes will be well drained whereas those in the valley bottom will have a high water table and hence will be poorly drained.

Human influence on our soils is also important here. Man has adapted many of the soils in the local area to suit his needs and that of raising crops and livestock. Farmed soils will generally have a different soil profile to those that are under natural vegetation such as woodland.

Within the chalk soils there will be a wide range of organisms. These are particularly important in recycling the nutrients by breaking down dead plant remains. Underneath your feet when you stand on the ground will be millions, even billions, of organisms all busy making the soil the magical substance it is.

To find out more about soil, visit **www.soil-net.com**