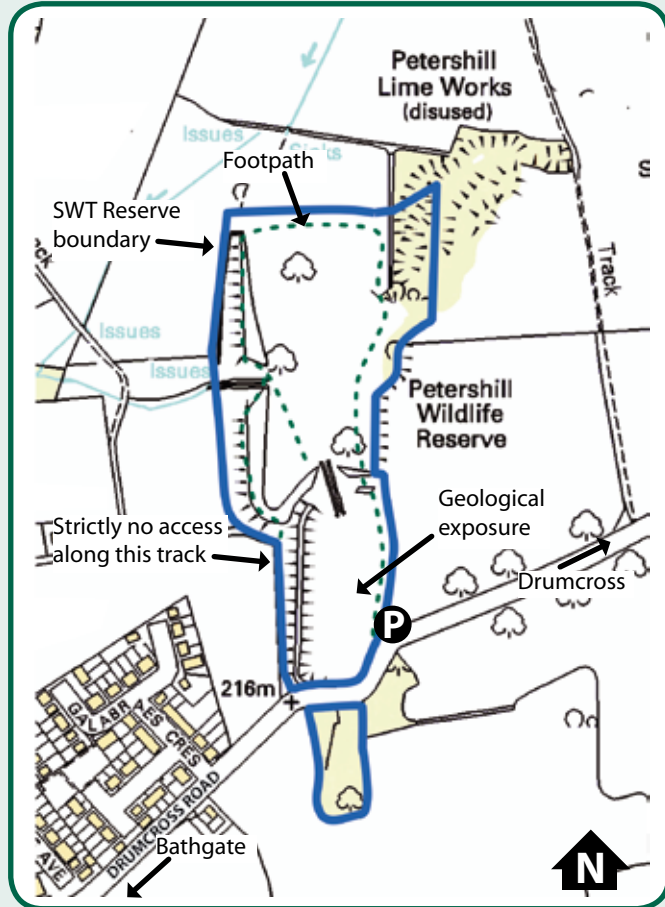


Location

Petershill Wildlife Reserve lies on the eastern outskirts of Bathgate, off Drumcross Road approximately 1km east of the town centre. Car parking facilities and the public entrance are situated to the southeast of the reserve and are indicated by a signpost.



The reserve is very wet in parts and slippery underfoot. Please take care, especially whilst walking on rocks or on steep slopes. Please help us protect this fragile site by staying on the footpaths ensuring that the vegetation and geological exposures are not damaged, and that any temptation to collect fossils is resisted. *Thank you.*

The Scottish Wildlife Trust

The Scottish Wildlife Trust is the leading charity conserving wildlife and natural environments in Scotland. It is a partner in The Wildlife Trusts, a network of 47 Wildlife Trusts covering the UK and managing over 2000 wildlife reserves. The SWT relies heavily on donations, legacies and membership income. Please join us and support our work the need is urgent.

For further information and details of membership, please contact: **Scottish Wildlife Trust,**
Cramond House, 3 Kirk Cramond,
Edinburgh EH4 6HZ
Tel: **0131 312 7765**
www.swt.org.uk

LOTHIANS and BORDERS Geoconservation

A sub-committee of the Edinburgh Geological Society, a charity registered in Scotland No SC008011

What is a LGS?

A LGS is a Local Geodiversity Site. It is a landscape, landform or rock feature identified by the local geoconservation group as having particular value for education and tourism; for academic research; for the history of science; or for its aesthetic appearance. With the permission of the landowner, LGS are identified to the local councils.

What are its planning implications?

There are no statutory restrictions on the site but when planning proposals are considered the councils will be aware of the value of the LGS.

Contact: www.edinburghgeolsoc.org
www.labrigs@bgs.ac.uk

Autumn 2011



PETERSHILL WILDLIFE RESERVE Bathgate

geology and wildlife

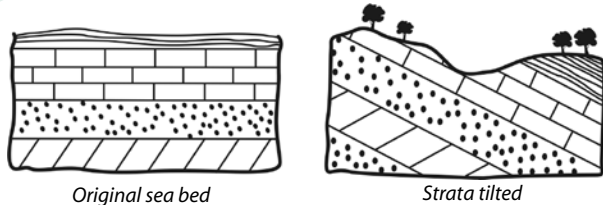
westlothian.gov.uk



Geology and wildlife

HISTORY: The Petershill Limestone was first recorded as being quarried for lime in 1768, and quarrying continued until two of the workings were converted into drinking water reservoirs in 1886 and in 1905. The reservoirs were no longer required by 1972 and were finally declared redundant in 1981. During 1984-1986 the dams were breached and the reservoirs drained. The 5.4 ha reserve was first notified as part of a larger Site of Special Scientific Interest (SSSI) in 1976 and was gifted to the Scottish Wildlife Trust as a nature reserve in January 1990. In September 1999, it was also designated a Regionally Important Geological Site now known as a Local Geodiversity Site.

GEOLOGY: The reserve is of geological importance for its limestone reef, which contains abundant fossils. The reef was formed in the Carboniferous era, some 330 million years ago, in a clear, shallow, tropical sea or lagoon. At that time volcanoes were very active in the area and lava flows and ash falls eventually built up a volcanic pile that now forms the Bathgate Hills. Over the ages, many thousands of feet of sediment and volcanic rock buried the limestone.

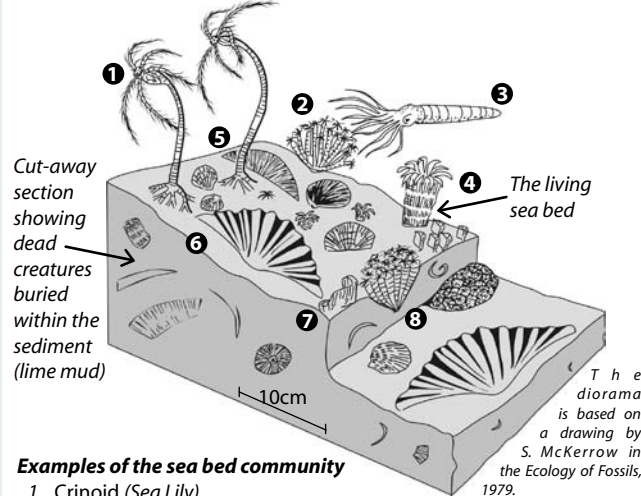


Subsequent earth movements raised the strata, gently tilting them to the west. Rain, wind and ice gradually eroded the overlying rocks until the Petershill Limestone was exposed at its present level on the surface. During the last Ice Age, movement of ice from the west formed the landscape that can be seen today. The harder rocks resisted erosion and these are now exposed as the higher hills and crags.



The fossils found within the Petershill Limestone represent a rich and diverse fauna of corals,

THE SEA BED DURING THE FORMATION OF THE PETERSHILL LIMESTONE



Examples of the sea bed community

1. Crinoid (*Sea Lily*)
2. Colonial Coral (*Lithostrotion junceum*)
3. Nautiloid
4. Solitary Coral (*Dibunophyllum*)
5. Brachiopod Shell (*Semiplanus latissimus*)
6. Brachiopod Shell (*Gigantoproductus giganteus*)
7. Brachiopod Shell (*Eomarginifera*)
8. Colonial Coral (*Lonsdaleia*)

sponges, crinoids (sea lilies), bivalves and nautiloid molluscs, trilobites, gastropods (sea snails) and brachiopods. These species thrived in the shallow, tropical, clear-water marine environment that existed on the floor of the ancient tropical sea situated in Central Scotland in Early Carboniferous times.



Brachiopod Shell (*Gigantoproductus giganteus*)

WILDLIFE: The reserve supports a wide variety of plants, insects, amphibians, birds and mammals. Of interest are a number of transitional environments where various habitats can be seen to change from one type into another. For example, the progressions from open water into wetland and then into scrub and woodland.

FLORA: The combination of high humidity and limestone is locally rare. The reserve supports lime-loving mosses and liverworts of regional importance. The regionally scarce Adder's Tongue Fern, found in good numbers in the northern meadow in May - early June. The well-drained higher ground hosts a herb-rich grassland with species such as twayblade, fairy flax, flea sedge and quaking grass. Northern marsh, common spotted and greater butterfly orchids can also be seen. Water horsetail dominates all of the former areas of open water and causes difficulties in maintaining this habitat on the site. This is more prevalent and consistent across the wetlands of the reserve than the *willowherbs*. Great Willow herb is found in abundance at the south of the main area of the reserve, beneath the road. Rosebay Willowherb is encroaching into the reserve from the former reservoir sides across other areas - this is a potential problem and will need to be managed in the future. Rushes, sedges and willowherb dominate the two small bodies of open water. Common horsetail and water horsetail are present an interesting link back to Carboniferous times where their ancestors grew to giant proportions! The more regionally scarce mare's tail can also be found in one pool on the reserve.

FAUNA: Squirrel, badger, brown hare, rabbit and roe deer are regular visitors to the reserve. Some 15 species of butterfly and moth may be observed during the course of the year. Some examples of butterflies such as the ringlet featured, common blue, meadow brown, small tortoiseshell, red admiral and peacock are all present in good numbers.

Six spot burnet moth is a colourful day flying moth that can be seen during the summer. The lagoon supports a good population of amphibians, frogs, toads and the regionally important smooth newt. Some 61 species of bird have been observed on the reserve at various times of the year. Species of particular note are reed bunting, sedge warbler, blackcap and snipe.