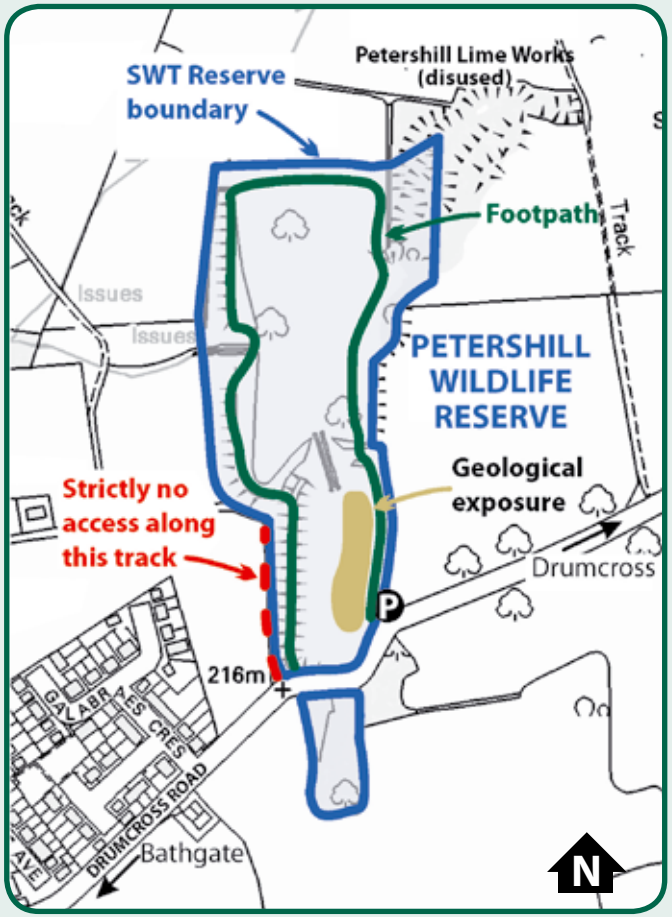
Location

Petershill Wildlife Reserve and LGS 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. Please refrain from parking at the access to Bughtknowes Farm.



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 is not damaged. Please follow the Scottish Fossil Code (*http://www.snh.gov.uk/docs/B572665.pdf*) and do not hammer or dig at the rock exposure. *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.

For further information and details of membership, please contact: **Scottish Wildlife Trust,**
Harbourside House,
110 Commercial Street, EDINBURGH, EH6 6NF
Tel: **0131 312 7765**
www.swt.org.uk

Lothian and Borders Geoconservation

A committee of the Edinburgh Geological Society, a charity registered in Scotland No SC008011. It is a member of the Scottish Geodiversity Forum and GeoConservation UK.

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; academic research; the history of science; or its aesthetic appearance. With the permission of the landowner, LGS are identified to the local council.

What are its planning implications?

The site is a Site of Special Scientific Interest (SSSI). When any planning proposals are considered the council will be aware of the value of the LGS.

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

Winter 2013

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Scottish Wildlife Trust
Scottish GEODIVERSITY Forum
GeoConservationUK

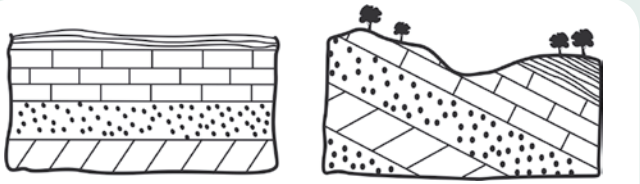
PETERSHILL
WILDLIFE RESERVE, Bathgate
Geology and wildlife

westlothian.gov.uk
West Lothian Council

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 (LGS).

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 metres of sediment and volcanic rock buried the limestone.



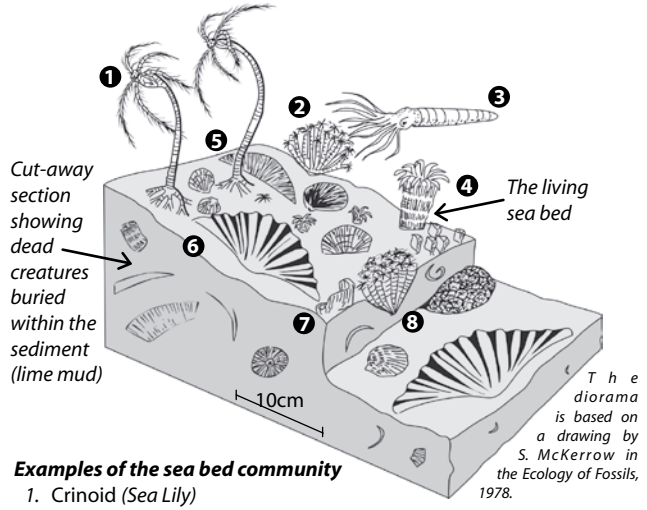
Original sea bed *Strata tilted*

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.

Solitary Coral *(Dibunophyllum)*

The fossils found within the Petershill Limestone represent a rich and diverse fauna of corals, sponges, crinoids (sea lilies), bivalves 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.

THE SEA BED DURING THE FORMATION OF THE PETERSHILL LIMESTONE



The diorama is based on a drawing by S. McKerrow in the Ecology of Fossils, 1978.

Examples of the sea bed community

1. Crinoid *(Sea Lily)*
2. Colonial Coral *(Siphonodendron 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)*

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, can be 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. 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. 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.

Adder's Tongue Fern

FAUNA: A variety of butterflies and moths can be observed including ringlet, common blue, meadow brown, small tortoiseshell, red admiral and peacock which are present in good numbers. The six spot burnet which is coloured black and red is a day flying moth that can be seen during the summer.

Six Spotted Burnet Moth

Areas of open water support good populations of amphibians such as frogs, toads and smooth newt. Approximately 60 species of bird have been seen including notable species such as reed bunting, sedge warbler, blackcap and snipe.