LOCALITY MAP

SAFETY INFORMATION

This trail is about 1.7km long.
Wear clothing and foot wear appropriate for the prevailing weather conditions and terrain. **Keep away from the cliffs because they are unstable.**

TRAVEL INFORMATION

By bus:
Stagecoach service 95 serves Crail from St. Andrews and from Anstruther and Leven.
By road:
Crail lies on the A917 St.Andrews to Leven road.
There is free car parking area on Marketgate.

Aerial view of Crail is courtesy of Digimap under license to Richard Batchelor, University of St. Andrews

CRAIL MUSEUM & HERITAGE CENTRE
62-64 Marketgate
Crail,
Fife KY10 3TL

http://www.crailmuseum.org.uk

geoHeritage Fife
was set up in 2000 to:

* publicise Fife's geological heritage
* provide educational resources in geology
* promote geotourism

If you would like to assist with these aims, please consider joining the group by contacting **geoHeritage Fife**

T: 01334 828623
W: http://earthsci.st-andrews.ac.uk/outreach

Scottish Charity No. SC 032509

Fife RIGS/LGS
RIGS were Regionally Important Geological (and Geomorphological) Sites, but are now known as Local Geodiversity Sites (LGS).

Fife LGS is concerned with identifying and assessing important sites and notifying the statutory planning authority of these sites. Fife RIGS was incorporated into **geoHeritage Fife** in 2005.

Crail Museum & Heritage Centre

See examples of local rocks in the buildings of the town

Local rocks 335 million years old

Some rocks imported from Argyll and Dumfriesshire

Stone pigeon holes in doocot

The Building Stones and Geology of Crail

Building Stones of Crail

Many of the older buildings in Crail are built of reddish - purple sandstones obtained from Craighead Quarry near Fife Ness. The red colour is due to the presence of iron oxides (rust).

Disused Craihead Quarry, near Fife Ness.

Once rail transport became established, stone could come from further afield. There is evidence in the town of red sandstone from near Dumfries. Grey roof slates could have come from Ballachulish by ship. Dolerite setts seen around the harbour may have come from Baillieston Quarry near Arncroach. Green slates in Crail are likely to have come from near Dunkeld in Perthshire.

Red granite seen in the fountain resembles that quarried at the Ross of Mull, while a greyish granite is similar to that extracted from near Dalbeattie, Dumfries & Galloway.

Geology of the Crail area

Crail is built on rocks of Carboniferous age, about 335 million years old. The rocks are mostly sandstone and shale with rare limestone. Sandstones were formed from sand brought by large rivers flowing south from the then recently-formed Grampian Highlands. Shale was formed in deep water from muds carried by rivers. Limestone was deposited when sea water invaded the land. Fossilised remains of trees and foot prints of giant millipedes which occur in the area around Crail indicate that these rocks formed in tropical deltaic environments when this part of the Earth was close to the Equator.

Red sandstone cliff beneath the Castle.

Cliff of sandstone showing a curved river channel. On the left is a bed of shale which makes this cliff unstable. Crail.

Red and white sandstones, Crail.

Limestone bed, Crail.

GLOSSARY

Basalt: a fine-grained volcanic lava. It is rich in iron and magnesium minerals.
Dolerite: a coarser grained version of basalt.
Granite: a coarse-grained rock which cooled slowly from molten magma deep underground. It is rich in sodium, potassium and silica minerals.
Limestone: a rock composed mainly of calcium carbonate and often containing fossils.
Sandstone: a rock formed by the deposition and accumulation of sand grains.
Shale: a rock made of mud laid down in relatively quiet water.

Locality 1
Crail Kirk

The original church was built in the 1150's and the tower added in the early 1200's. The present south facade was rebuilt in 1815. The tower is built of rough hewn blocks of reddish-purple sandstone, probably from Craighead quarry.

Church tower

Pillar in church nave

The pillars inside the church are made of a mottled red and white sandstone which resembles the sandstones at nearby Roome Bay.

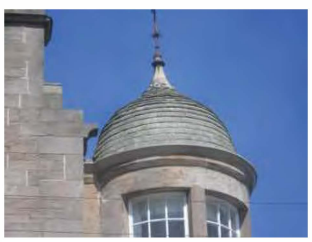
Locality 4
Tolbooth, Marketgate

*

The Tolbooth was built in 1598 and the tower rebuilt in 1776. The rectangular shaped blocks of the tower indicate its importance relative to the rough cut stone of earlier buildings.

A closer look at the sandstone blocks in the Tolbooth show details of layers in the rock and also different colours, suggesting different sources. The building across the road, seen on the left of the upper picture (*), contains blocks of red sandstone in the window sills which is typical of sandstone from Locharbriggs Quarry, Dumfries.

Locality 5
Tolbooth Wynd



Look up at the roof tops. This cupola has green slates around it similar to slates quarried at Dunkeld, Perthshire.

Outside the entrance to the churchyard on the west side of the parking area, there is a large boulder of dolerite. It is known as the "Blue Stane". It is a glacial erratic deposited by melting glaciers at the end of the last Ice Age, about 10,000 years ago.

<Walk 50m west along Marketgate.>

Locality 2
9 Marketgate

This house was developed from 2 pre-existing cottages in 1686. It is made of rough hewn sandstone, probably from Craighead Quarry. (When viewing this locality, please respect the privacy of the inhabitants).

Grey slates are typical of Ballachulish slate from Argyll, known from the late-18th century to have been shipped to the east of Scotland.

Pantiles are S-shaped clay tiles. Originally imported from the Low Countries by the shipping trade, later tiles were made from local Late-Glacial marine clays.

Locality 6
Harbour

A large 5-sided column of basalt lies close to a water tap on the ramp down to the west sandy beach. When basalt cools, it can form 5- or 6-sided columns.

The surface of the west harbour breakwater is laid with dolerite setts.

<Return to the east side of the Harbour and, just below the toilets, is a ramp leading down to the foreshore.>

Locality 3
Memorial, Marketgate

This memorial fountain was built in 1897 and is dedicated to Queen Victoria's Diamond Jubilee. It is built of granite, one red and one grey.

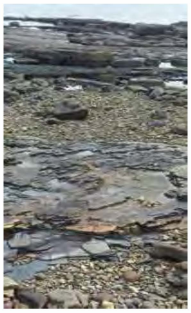
The grey stone resembles Dalbeattie granite and the red variety is similar to that from the Ross of Mull. Both types can also be seen in the fountain on Market Street, St Andrews.

This wall on the north side of the ramp leading down to the East shore has an interesting stone coloured yellowish-brown.

This rock has tight wrinkle structures. It is an algal limestone which formed in warm shallow water 335 million years ago. Rock similar to this is found on Kingsbarns beach which suggests that this boulder was collected from a local beach.

<From the Harbour, retrace your steps up the steep road and at the sharp left-hand bend, go up the steps ahead. Follow the path around the castle walls. At the end of Castle Walk, turn right down the steps to join the coastal path. Look down onto the beach to see various rock formations.>

Locality 7
Sea shore



Local rocks comprise layers of sandstone, shale and limestone.

Sandstones sometimes display evidence of ripples which formed on a beach 335 million years ago.

<At the Doocot, take the path uphill. The Doocot door is open most days.>

Locality 8
Priory Doocot

Doocot.

Pigeon nesting holes are formed from blocks of sandstone.

<Continue up hill past the doocot to reach Nethergate North. Return to your starting point.>