

LONGFORD

AREA OF COUNTY: 1,091 square kilometres or 421 square miles

COUNTY TOWN: Longford

OTHER TOWNS: Abbeyshrule, Edgeworthstown, Granard

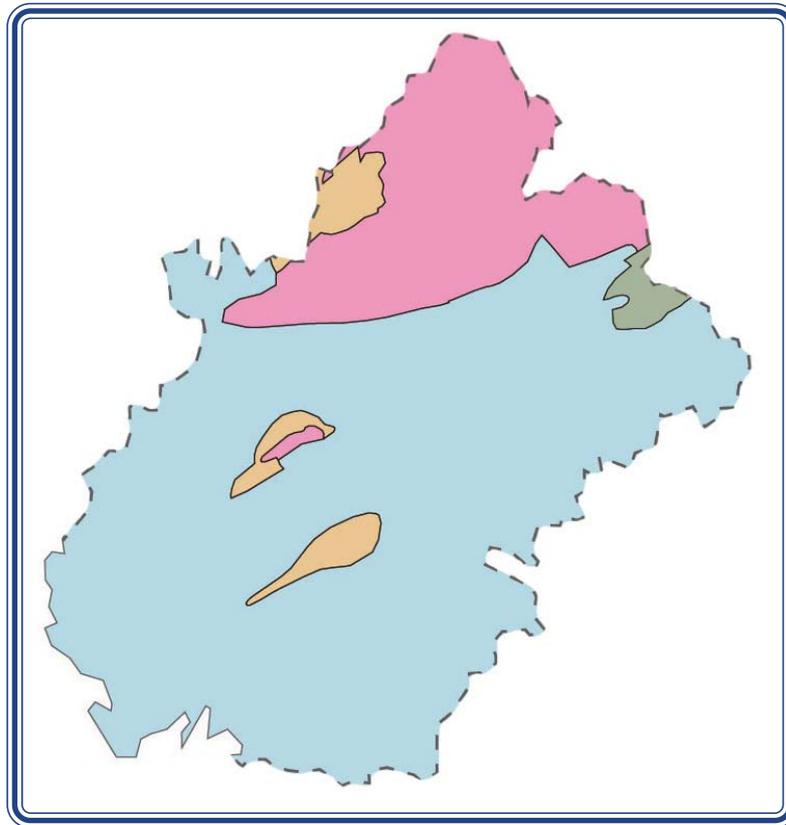
GEOLOGY HIGHLIGHTS: Lower Carboniferous Limestone, Glacial deposits

AGE OF ROCKS: Ordovician to Carboniferous



Royal Canal near Cloonard

The bridge over the canal from where the picture is taken is constructed of locally-quarried Lower Carboniferous grey limestone.



Geological Map of County Longford

Pink: Ordovician; **Grey:** Ordovician & Silurian; **Beige:** Devonian sandstones and conglomerates; **Light blue:** Lower Carboniferous limestone.

Geological history

The oldest rocks in Co. Longford are those in the north of the county where Ordovician rocks comprise a succession of sandstones and shales. Towards the end of the Ordovician a different group of sediments (coloured grey on the map) were deposited in a deepish ocean, the Iapetus Ocean, that was fed with sands and muds by rivers flowing off the ever-nearing continental margins. This later suite of Ordovician and Silurian sediments are grouped together. These make up an inlier, the Longford-Down Inlier, where older rocks are surrounded by younger rocks, and this extends northeastwards. Only the western part of the inlier is exposed in the county near Granard between Lough Gowna and Lough Kinale.

Some small patches of Devonian sandstones and conglomerates are found near Drumlish and make up Corn Hill nearby. These rocks are the products of sedimentation in a semi-arid environment, meandering through which were temporary rivers which filled during flash floods. These waters

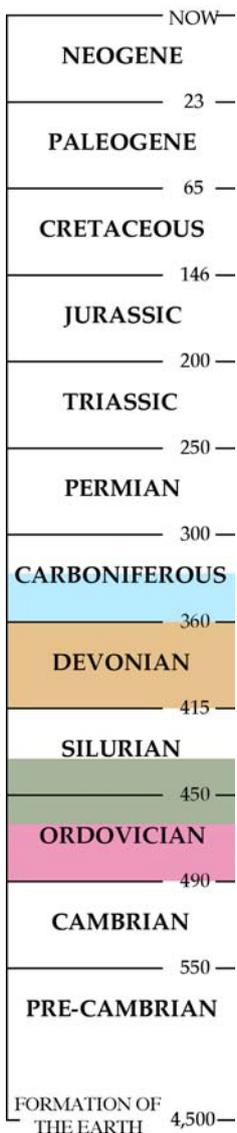


Carboniferous cephalopods (squids). These are either coiled (far left) or straight (centre). Internally they contain gas filled chambers (seen in cut specimen on right) which keep the animal from sinking.

carried coarse cobbles and pebbles, as well as sands southwards and these make up the Old Red Sandstone with its characteristic purple to rust colour.

At the end of the Devonian marine conditions returned to Ireland as it was slowly flooded by an ocean whose shoreline migrated northwards over many millions of years. In this ocean limestone was deposited and it is possible to find the fossilised remains of the many beautiful and diverse life-forms that lived in it. Two types of limestone were formed. Shelf limestones formed horizontal bands or beds of grey stone, while mudmound limestones form upstanding 'knolls' or bumps on the seafloor or in today's landscape. The mudmounds are much like modern-day reefs, except that there are few corals to bind the lime muds together. They are thought to have been held together with a sticky mass of algae which survived long enough to allow the stone to form. Recently a study of fossil cephalopods (pictured above), a type of squid closely related to the modern *Nautilus*, has shown that the mudmounds at Mullaghwarnia in Longford formed in water depths of between 50 and 200 metres.

Rocks younger than Lower Carboniferous do not occur in the county, and much of the underlying bedrock is obscured by a generous covering of glacial till or boulder clay. This was deposited in a number of events during the last Ice Age. It is thought that ice developed at least four times in Ireland in the last 2 million years and much of the county would have been smothered under several kilometres of ice. As it moved over Ireland the ice was able to gouge and erode the rock surface and the material was pulverised into small pieces.



Geological timescale showing age of rocks in Longford.

When the climate became milder the ice melted and the rocks crushed up in the ice were dumped. Over the last 10,000 years soils developed on the glacial tills and as they contain a high proportion of limestone the soils are generally good for agricultural use.

Mining, the Mine that never was & Building Stones

Some small iron-ore mines were opened at Cleenragh and Enaghan, near Lough Gowna as long ago as the 1700s, and small-scale extraction continued off and on until the 1870s.

A deposit of metallic minerals was discovered at Keel in the early 1960s seven miles south of Longford town. In 1965 a shaft was dug and 1,500 metres of underground workings opened. This was done to access the commercial viability of the ore body which was found to contain Sphalerite (right) a zinc mineral. Unfortunately the grade (% of metal in the rock) was not high enough to begin wholesale extraction of the material, and the operation was suspended in 1968.



Limestone has always been an important material for building and for agriculture. Lime was produced for use as a fertiliser by burning limestone in a lime kiln and many small quarries were opened in the past to supply the kilns. Limestone was quarried for use as a dimension stone and blocks were extracted from a number of locations for use in the building of the Royal Canal that crosses the county. Today limestone is used for road materials, and for the making of concrete blocks and cement. A number of the mudmounds were removed by quarrying for such purposes.

In the middle of the nineteenth century an enterprising person started a brick and tile works in Longford that exploited some of the clays found in the glacial deposits. The bricks and tiles were sent by canal and rail to Dublin but because the Royal Canal was allowed to eventually fall into disrepair the factory failed and production ceased.

Map adapted with permission from Geological Survey of Ireland 1:1,000,000 map 2003.
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