LOUTH

AREA OF COUNTY: 820 square kilometres or 316 square miles

COUNTY TOWN: Dundalk

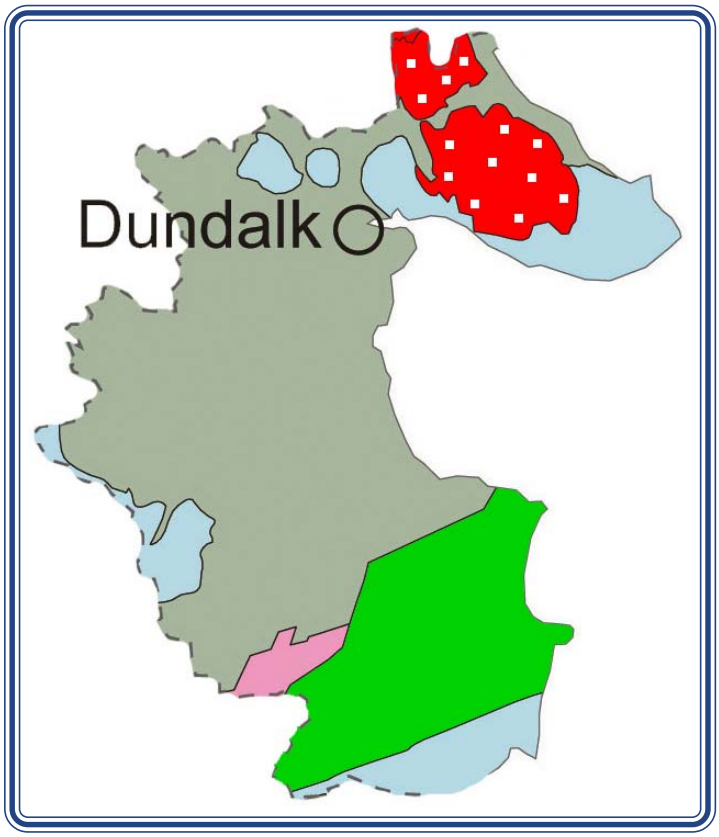
OTHER TOWNS: Ardee, Carlingford, Drogheda, Dunleer

GEOLOGY HIGHLIGHTS: Silurian ocean floor at Clogher Head; Paleocene volcanics on the Cooley Peninsula

AGE OF ROCKS: Ordovician, Silurian, Carboniferous, Paleogene, Pleistocene

Clogher Head

Steeply tilted beds of mudstone and muddy sandstone (known as 'greywacke') form the craggy cliffs and shore.



Geological Map of County Louth

Pink: Ordovician; **Green:** Silurian; **Grey:** Ordovician & Silurian sediments; **Red:** Granite; **Light blue:** Lower Carboniferous limestone; **Flecked Red:** Paleogene Gabbros and other intrusive rocks.

Geological history

The imposing hills of the Cooley Peninsula, in the north-east of the county rise steeply above Dundalk Bay and overlook a more subdued landscape stretching across the rest of Co. Louth.

The oldest rocks form a low range of hills just a few kilometres to the north-west of Drogheda, but they are poorly exposed. These Ordovician rocks, around 465 to 450 million years old, are dominated by volcanic lavas and ash falls erupted from volcanic islands and deposited on the ocean floor. Much of the low ground in the north of the county, between Dundalk and Ardee, is underlain by Silurian rocks, around 440 to 425 million years old. These were deposited on a deep ocean floor, where layers of slowly deposited dark mud were periodically interrupted by influxes of muddy sand avalanching down into the ocean basin from shallower water. Later, as the continental plates either side of this ocean moved together, these interbedded layers

The deeply weathered Carboniferous limestone in Tullyallen Quarry contains pockets of clay which are believed to be perhaps thirty million years old.

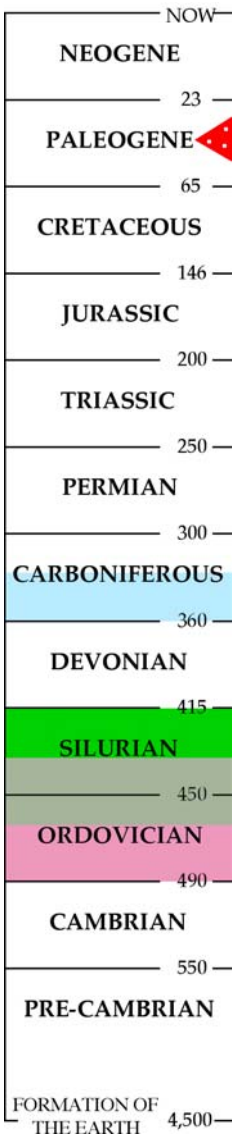
of mudstone and sandstone became buckled and broken. Today these ancient ocean floor sediments, tilted almost vertical, are superbly exposed in the coastal cliffs at Clogher Head.

There are a few rather small areas of Carboniferous limestone to the north of Dundalk, around Drogheda, and to the west of Ardee. These rocks, deposited on an equatorial sea bed around 340 million years ago, for the most part go unnoticed although they were formerly worked in a large quarry at Tullyallen, just to the north of Drogheda.

In places the limestone exposed at Tullyallen has been deeply weathered. Various fissures and potholes exposed by quarrying were found to contain pockets of pale clay quite different from the glacial 'boulder clay' on the surface. The clays are thought to be from the Cenozoic Era, between 65 and about 3 million years ago, but attempts to date them using microfossils has failed.

Although the age of the clays at Tullyallen remains unproven, the rocks that form the hills of the Cooley Peninsula undoubtedly are Cenozoic. All are volcanic and are Paleocene in age, around 60 million years old. They include basalt lava flows that erupted onto the surface as well as more coarsely crystalline gabbros that cooled in a magma chamber beneath the volcano. These gabbros form the mountain of Slieve Foye, the highest point in the county.

Much of the low ground across Co Louth is blanketed with glacial deposits left behind by glaciers from the last Ice Age.



Geological timescale showing age of rocks in Louth.

Slieve Foye rises dramatically above the town of Carlingford. The dark gabbros of which it is made cooled slowly, producing large crystals, in the magma chamber below a volcano.

Glacial till, or 'boulder clay', forms some of the rapidly eroding coastal cliffs, particularly at Dunany Point on the south side of Dundalk Bay.

Mining & Building Stones

The standing stones around the 5000 year old passage tomb at Newgrange were quarried from the Silurian sandstones exposed at Clogher Head. Today similar Silurian sandstone is quarried for aggregate near Dunleer. The limestone quarried at Tullyallen was used in cement manufacture.

Map adapted with permission from Geological Survey of Ireland 1:1,000,000 map 2003.
Image credits: Mike Simms (all).

Text & images by Mike Simms