

OFFALY - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Silver River
Other names used for site	<i>Abhainn Airgid</i>
IGH THEME	IGH10 Devonian, IGH14 Fluvial and Lacustrine Geomorphology
TOWNLAND(S)	Cadamstown, Deerpark, Magherabane, Coolgreen, Glenletter
NEAREST TOWN/VILLAGE	Cadamstown
SIX INCH MAP NUMBER	32, 37
ITM CO-ORDINATES	622700E 708515N (Cadamstown Bridge)
1:50,000 O.S. SHEET NUMBER	54
GSi BEDROCK 1:100,000 SHEET NO.	15

Outline Site Description

A steep-sided river channel, gorge and waterfall at the northwest foot of the Slieve Bloom Mountains.

Geological System/Age and Primary Rock Type

Upper Devonian age Cadamstown Formation mudstones, siltstones, sandstones, conglomerates (Old Red Sandstone), and Silurian shale. Post-glacial (Holocene) tufa deposits. The Silver River gorge is post-glacial in age.

Main Geological or Geomorphological Interest

The Silver River flows north from the Slieve Blooms, through Cadamstown, and north/northwest towards Ballyboy. The sandstones and conglomerates exposed along the Silver River comprise sands and gravels deposited in the channel of an ancient Devonian river. Muds and silts deposited on the ancient river's floodplain are also seen in the mudstones and siltstones of the Cadamstown Formation. Collectively, these are referred to as fluvial sediments. Some 600m upstream from Cadamstown, the lowest Old Red Sandstone beds are exposed in a 10m cliff. Further upstream, the contact (unconformity) between Devonian and Silurian rocks can be seen in the river bed. The older Silurian beds are noticeably inclined (due to folding), whereas the Devonian sandstone and conglomerate beds are near-horizontal. This site is the type section of the Cadamstown Formation, where an almost continuous section can be followed downstream from the unconformity, as far as the Carboniferous Lower Limestone Shales (~1km along the river north of Cadamstown).

Tufa springs can be seen on the west bank of the river at the unconformity location, where calcium-carbonate has been deposited from emerging groundwater springs.

The Silver River gorge is post-glacial in age. It formed during deglaciation of the Slieve Blooms, when meltwaters flowing from the mountains eroded and exploited weak fractures in the bedrock, enlarging channels and deepening the gorge. To the west of Cadamstown, the channels of an ancient stream (a phenomenon known as stream capture and diversion) delineate the townland boundary of Drummin (also Kilmacuddy and Castlefield).

Site Importance – County Geological Site

This is an important recommendation as a County Geological Site in terms of understanding the past environments during Devonian times. The Old Red Sandstone succession in the Slieve Blooms comprises a single formation - the Cadamstown Formation. The Silver River is the type section of this formation.

Management/promotion issues

The Silver River Nature Trail (National Loop Trail) and EcoWalk is a well-maintained and sign-posted trail that follows the river south of Cadamstown. The illustrated panels explaining the geological history of the locality and river are of great value and are exemplary to the promotion of geological heritage along trails and at public recreation sites.



View looking upstream from gorge towards wooden bridge.



Tufa springs on west bank, near unconformity.



Old Red Sandstone exposed in cliff, north of Cadamstown.



'Wildlife and Geology' information panel along trail.



Silurian strata on west bank of river bed, dipping south.

