

# LEITRIM - COUNTY GEOLOGICAL SITE REPORT

<b>NAME OF SITE</b>	<b>Stony River</b>
Other names used for site	
<b>IGH THEME</b>	<b>IGH9 Upper Carboniferous, IGH3 Palaeontology, IGH15 Economic Geology</b>
<b>TOWNLAND(S)</b>	<b>Sradrinagh, Greaghaguillaun</b>
<b>NEAREST TOWN/VILLAGE</b>	<b>Drumshanbo</b>
<b>SIX INCH MAP NUMBER</b>	<b>20, 21</b>
<b>ITM CO-ORDINATES</b>	<b>600700E 818100N</b>
<b>1:50,000 O.S. SHEET NUMBER 26</b>	<b>GS1 BEDROCK 1:100,000 SHEET NO. 7</b>
<b>GISCODE LM027</b>	

## **Outline Site Description**

Almost two km-long river valley, gorge-like in parts with large cliff exposures.

## **Geological System/Age and Primary Rock Type**

Namurian (middle Carboniferous) marine shales of the Dergvone Shale and Gowlaun Shale Formations (c. 320 Ma).

## **Main Geological or Geomorphological Interest**

The Stony River contains a near-continuous exposure of the stratigraphic sequence from the Dergvone Shale Formation to the top of the Gowlaun Shale Formation, just below the overlying Lackagh Sandstone Formation. Excellent exposures of near horizontally-bedded, fossiliferous marine shales have provided an unbroken sequence of faunas comprising mainly goniatites and lamellibranchs. A study by Yates, published in 1962, described the fauna along the river section and determined that they were Namurian in age, demonstrating a precise correlation of the strata with beds of the same age in Ireland, Europe and North America. A Namurian age was also demonstrated for faunas within the Bencroy Shale Formation that overlies the Lackagh Sandstone Formation on the summit of Sliabh an Iarainn (Slieve Anierin). Thus the entire coal-bearing sequence in the Connacht Coalfield was shown to be Namurian in age and thus stratigraphically older than the Lower Coal Measures in England, with which the upper coal seams had previously been correlated.

Apart from the faunal record, the site provides a 78 m-thick section through the Gowlaun Shale Formation that has been cited as the type section for this formation. Both the Dergvone and Gowlaun Shale Formations in this site contain abundant iron nodules. These nodules were extracted from the stream bed in the 18<sup>th</sup> and 19<sup>th</sup> centuries and carted to smelting works in the region, notably at Drumshanbo.

## **Site Importance – County Geological Site; recommended for Geological NHA**

This is an excellent site with superb exposures of the stratigraphic sequence through two fossiliferous marine shale formations. The unbroken faunal sequence that formed the basis for stratigraphic correlation within and outside Ireland is of considerable significance at both national and European level. For this reason the site should be considered for NHA designation. Examples of the fauna are housed in the National Museum.

## **Management/promotion issues**

The site is largely on commonage and readily accessible on foot. It is almost entirely within the Cuilcagh – Anierin Uplands SAC and proposed NHA. As it is likely to be of interest mainly to researchers or professional geologists, promotion is not warranted.



View southeast upstream along Stony River valley. Photo taken from point just upstream of Yates's third marked fossiliferous locality.



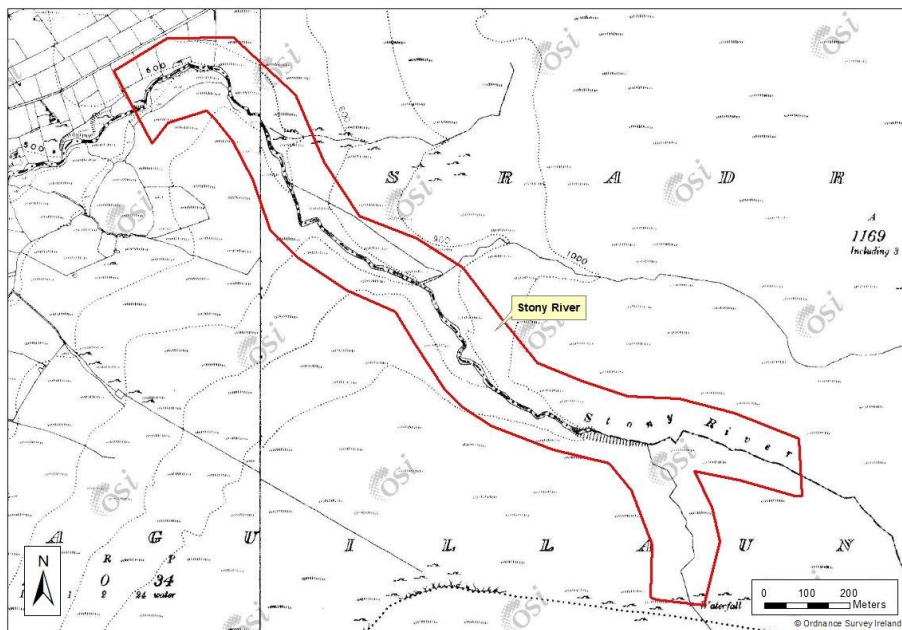
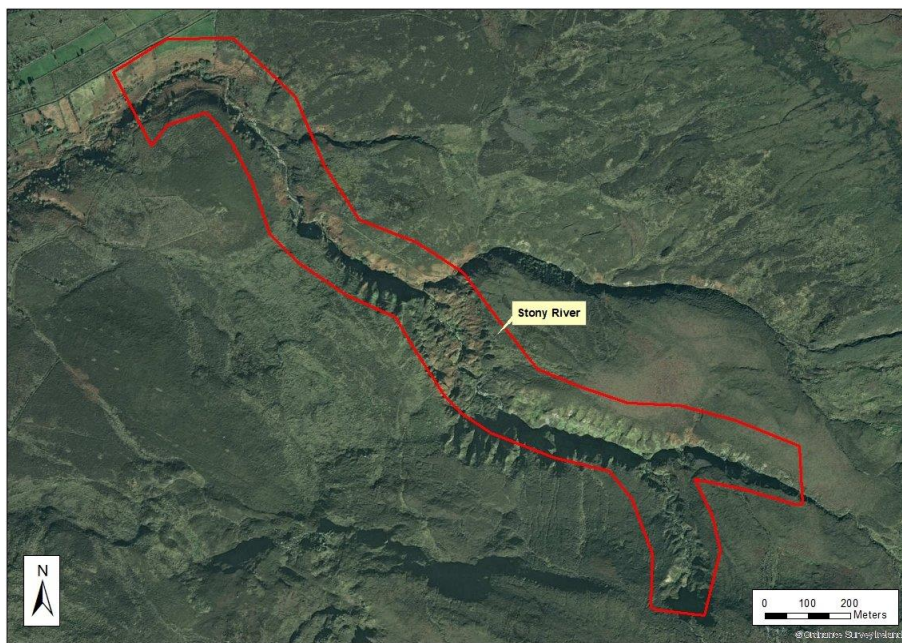
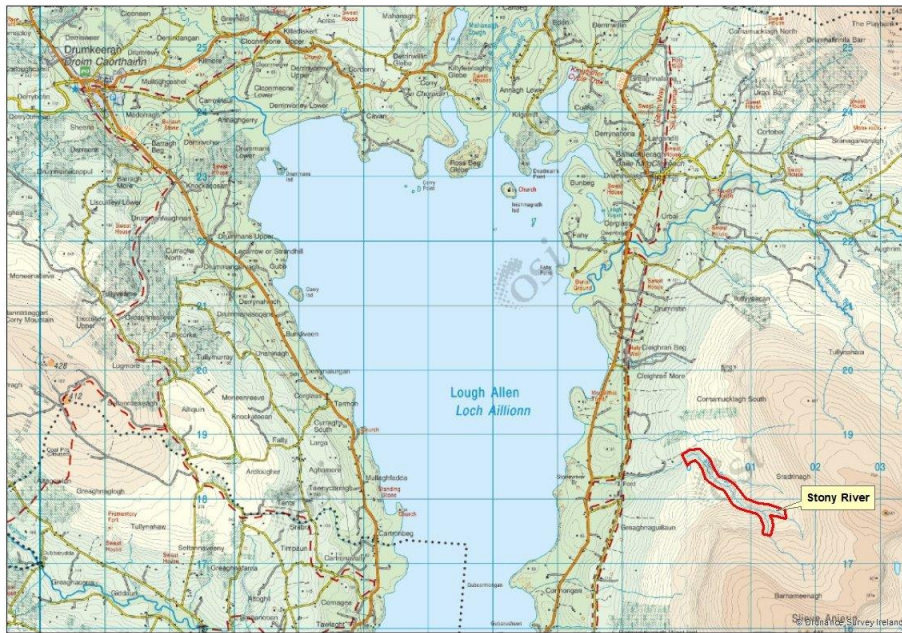
Large iron-rich nodule in shale at base of cliff at Yates's fourth fossiliferous locality.



Fossil goniatites traces on surface of shale bed at Yates's sixth fossiliferous locality. (Diameter of 10 cent coin = 20mm.)



Yates's fourth fossiliferous locality, on northern side of river.



Parkes et al., 2020. Geological Survey Ireland.