TIPPERARY - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	River Shannon Callows
Other names used for site	
IGH THEME	IGH 14 Fluvial and Lacustrine Geomorphology, IGH7
	Quaternary
TOWNLAND(S)	Lehinch, Portland, Portland Little, Portland Island,
	Ballymacegan, Redwood,
NEAREST TOWN/VILLAGE	Portumna
SIX INCH MAP NUMBER	1, 3, 4
ITM CO-ORDINATES	590550E 710550N
1:50,000 O.S. SHEET NUMBER 53	GSI BEDROCK 1:100,000 SHEET NO. 15

Outline Site Description

Seasonally flooded grasslands alongside the River Shannon between the River Brosna and Portumna.

Geological System/Age and Primary Rock Type

Macrofossils and pollen assemblages identified in clays and white marls underlying the callows indicate a post-glacial (the last 14,000 years) landscape. Bedrock underlying the callows comprises Lower Carboniferous Waulsortian and Calp lithologies.

Main Geological or Geomorphological Interest

The River Shannon Callows consists of seasonally flooded, semi-natural, lowland wet grasslands alongside the river between Athlone and Portumna. In Tipperary, the callows occupy the riverside between Portumna and the Little Brosna. At the end of the last Ice Age, around 14,000 years ago, the area presently occupied by the Shannon Callows was occupied by a deep lake, into which great quantities of silt and clay were washed (surface vegetation was scant at the this post-glacial time, such that run-off and erosion was largely unimpeded). These sediments occur beneath the area's callows and bogs, measuring thicknesses of up to 13 m around the River Brosna callows. The skeletal remains of the great deer were discovered in clays under raised bogs along the Shannon Callows. Pollen dated from the base of shell marl deposits indicate climatic changes occurred around 11,500 years ago, bringing more temperate conditions and the development of continuous vegetation cover, reduced erosion, and the spread of pine forest. Marl lakes prevailed for several millennia, until the onset of fen development around 5,200 years ago, when raised bogs began to cover the hitherto lacustrine landscape. The open water of the great lake disappeared by around 4,500 – 4,400 years ago, and the current course of the River Shannon may have developed at this time. Agricultural activity along the callows at this time is also evident from the pollen record. It is understood that the present grassland landscape is only a recent development (1500 to 1900 AD).

Site Importance – County Geological Site; recommended for Geological NHA

This site has very many features of a natural ecosystem and is worthy of recognition as a County Geological Site owing to seasonal flooding and to the subsurface sediments that are key to formulating an understanding of past climatic and environmental changes since the end of the last ice age. The River Shannon Callows is the largest area of semi-natural grassland habitats in Ireland and has very many features of a natural ecosystem. The feature is already a SAC and pNHA (River Shannon Callows, 00216) and a SPA (Middle Shannon Callows, 004096). The designated County Geological Site matches the boundaries of the pNHA area in Co Tipperary.

Management/promotion issues

Drainage and dredging of the river could have a major influence on the natural seasonal flooding regime of this semi-natural grassland area.



View upstream of Shannon Callows from Tipperary side of Portumna Bridge.



View downstream of Shannon Callows (east bank) at Ballymacegan.



View west over Shannon Callows from R489 (approx. 1 km north of N65 junction).

