OFFALY - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	**Kinnitty Eskers**
Other names used for site	The Kinnitty-Clonaslee Eskers, The Knockbarron Esker, The Knockbarron Eskers, The Knockbarron Esker complex
IGH THEME	**IGH7 Quaternary**
TOWNLAND(S)	**Annaghmore and Annaghbeg, Knockbarron, Droughville, Cloghanmore, Killinure, Streamstown, Fortel**
NEAREST TOWN/VILLAGE	**Kinnitty**
SIX INCH MAP NUMBER	**35, 36**
ITM CO-ORDINATES	**617335E 707535N (centre of main esker segment)**
1:50,000 O.S. SHEET NUMBER	**53, 54 GSI BEDROCK 1:100,000 SHEET NO. 15**

Outline Site Description
The Kinnitty Eskers and surrounding sands and gravels include a large accumulation of sands and gravels deposited both under the ice sheet and at its margin as the ice withdrew westwards across east Offaly, north of Slieve Bloom, at the end of the last Ice Age.

Geological System/Age and Primary Rock Type
The Kinnitty Eskers and surrounding sands and gravels are formed along the line of suture between the Devonian Old Red Sandstones of the Slieve Bloom Mountains, and the Lower Carboniferous limestones of the lowlands surrounding them.

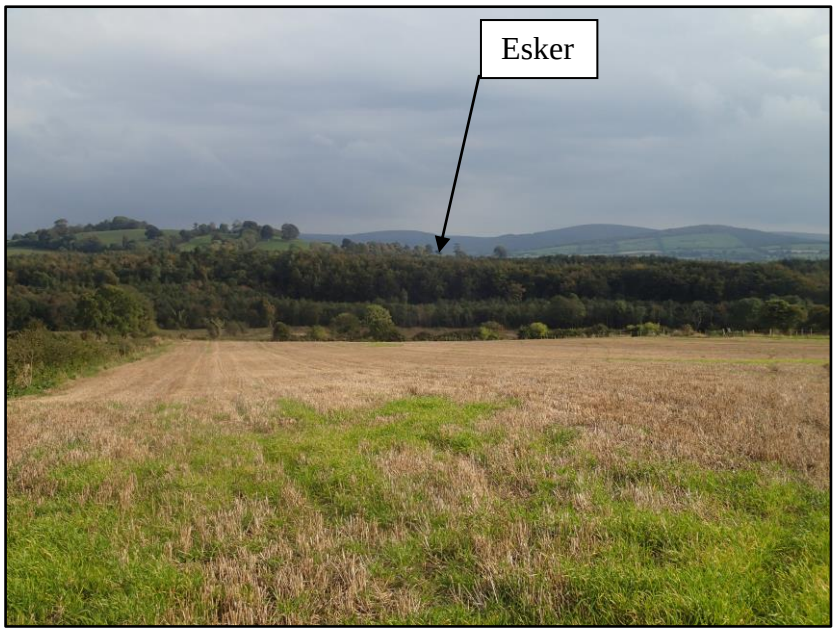
The eskers themselves are Quaternary in age, having been deposited either under or at the edge of the westward-retreating ice sheet in deglaciation, approximately 14,000 years ago.

Main Geological or Geomorphological Interest
The esker ridges are striking features, that stand proud of the flat landscape underlain by till (boulder clay), upon which they were deposited. In many places the eskers have been surrounded by post-glacial alluvium or peat deposits laid down during the Holocene. Intact portions within Knockbarron Wood, and forming part of the Eco-Walk there, are especially impressive. Here, the eskers are comprised of a haphazard arrangement of raised, elevated ridges of sands and gravels. Some of the hollows between the ridges are remarkably deep and wide.

The esker complex is important in that it records faithfully the ice movement across this area of southeast Offaly, where the ice flow swept around the Slieve Bloom Mountains. As the glacier retreated across the area north of the mountains, the margin began to break up and the irregular, hummocky topography of these eskers records this ‘dead ice’ environment. Associated sands and gravels in Streamstown and Cloghanmore Townlands, flanking the esker beads themselves, are probably part of associated ice marginal fans. The sands and gravels within the features are comprised chiefly of limestone clasts, but with portions of shale and sandstone also.

Site Importance – County Geological Site
The features are haphazardly arranged, high, striking examples of dry sand and gravel ridges, that stand proud of the surrounding landscape. As a well-defined landform sequence they should be listed as a County Geological Site. These eskers and their associated sands and gravels in the locality are a good example of a deglacial, meltwater-deposited complex, with portions deposited under the ice, and portions at the ice margin.

Management/promotion issues
A signboard dedicated to eskers, within Knockbarron Wood, might help promote the features.

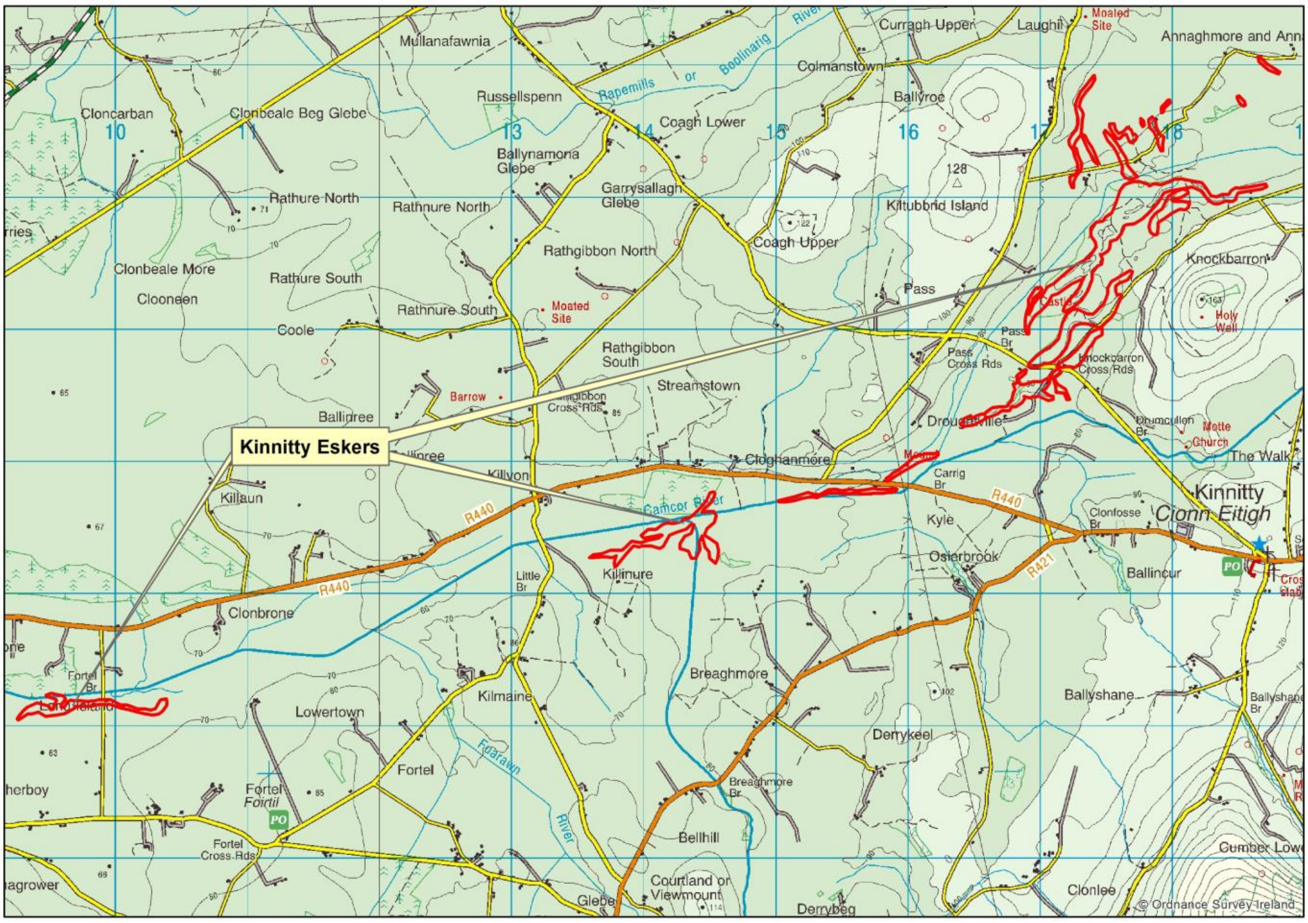


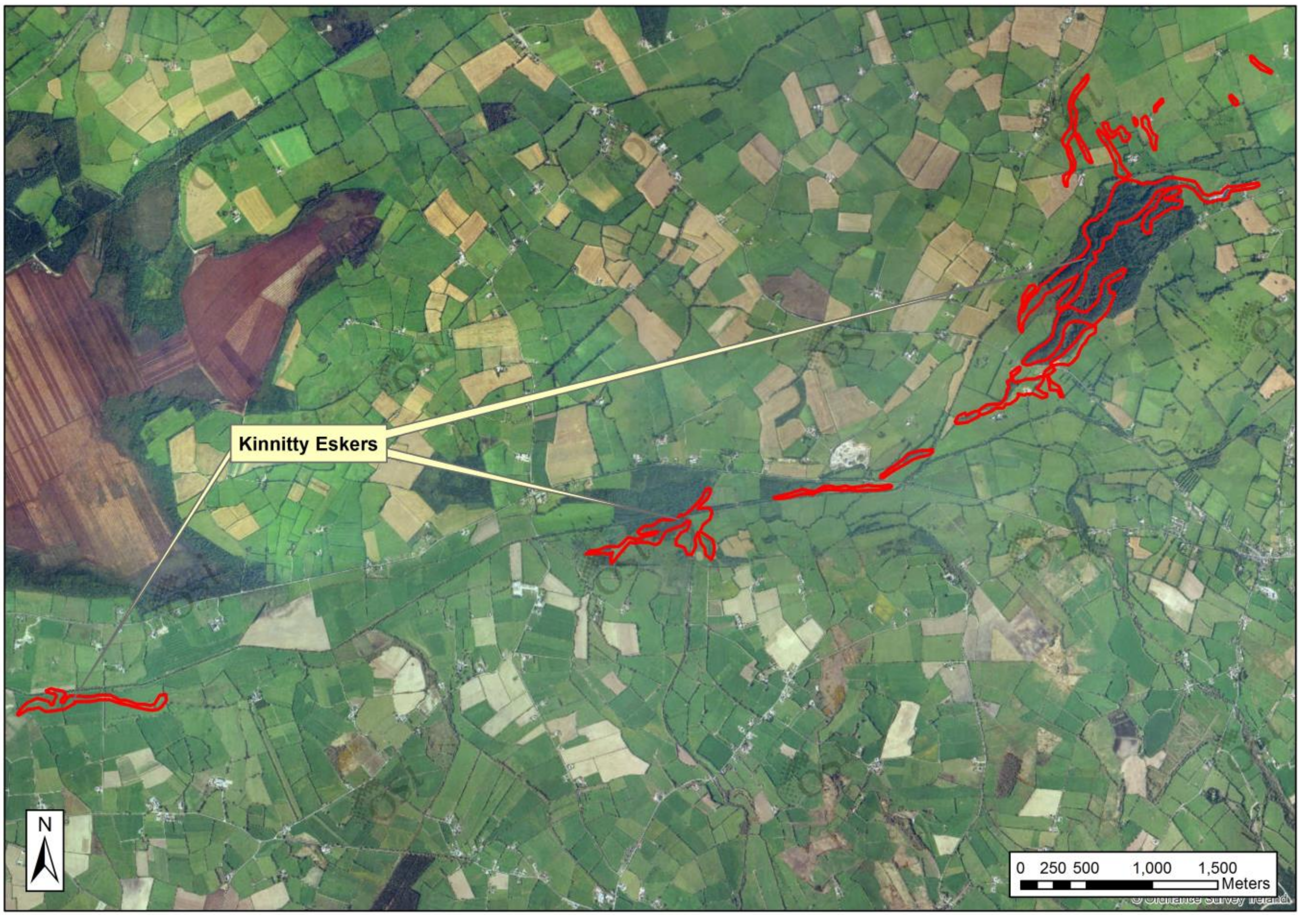
The main segment of the Kinnitty Esker in Knockbarron Wood, looking south.

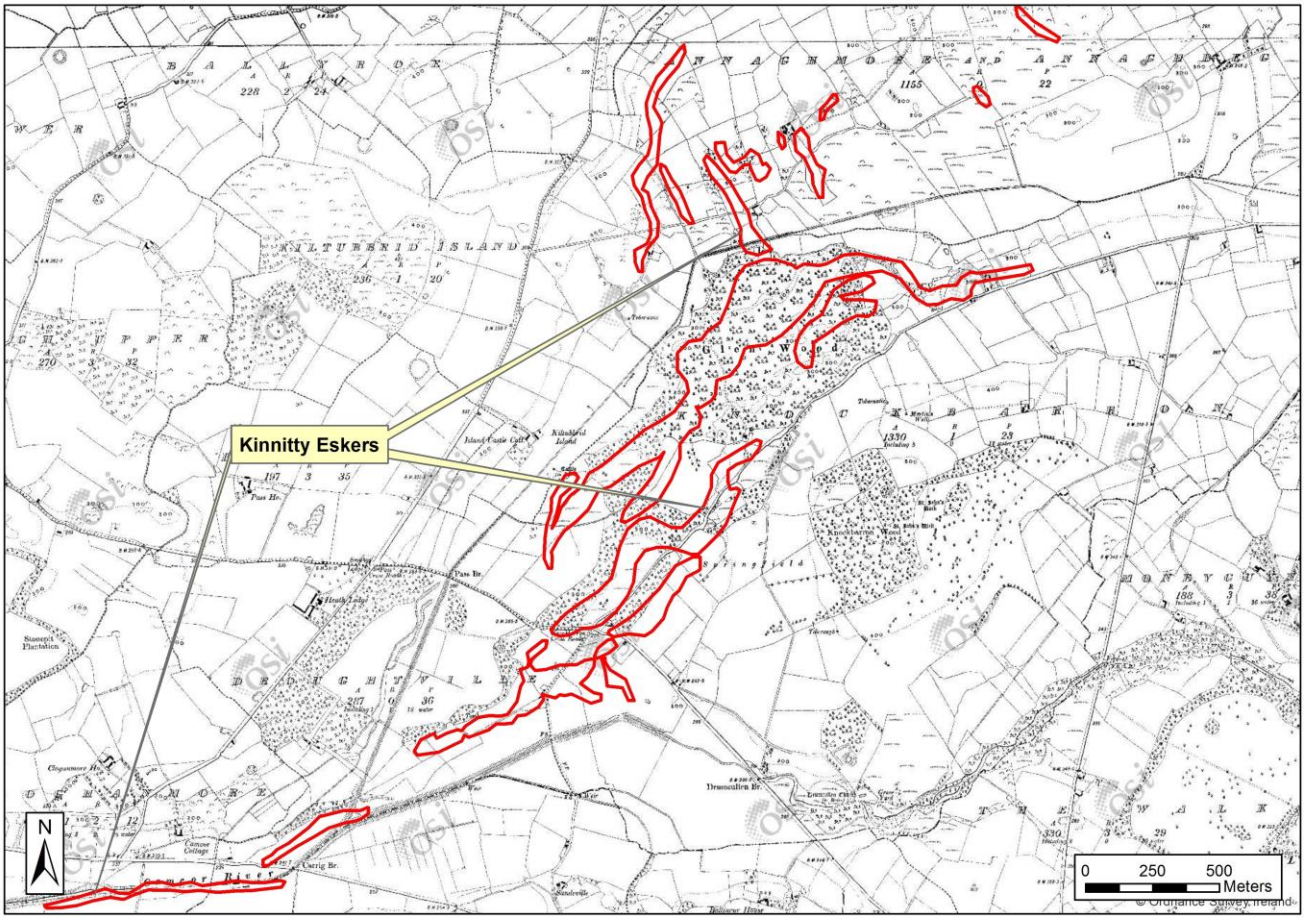
Looking west across haphazard esker topography in Knockbarron.

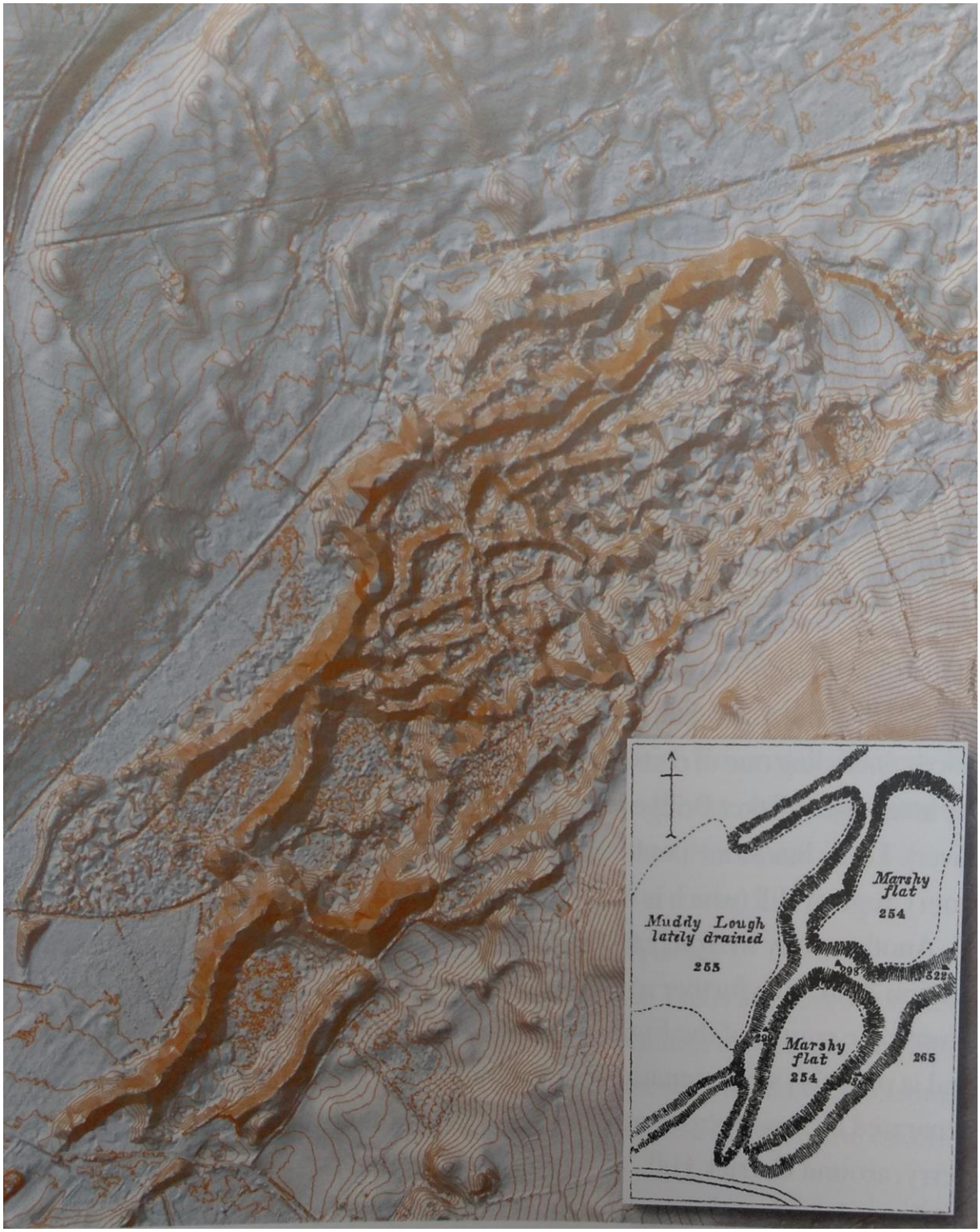
Knockbarron Wood, with ridged, hummocky topography just inside the entrance.

An exposure into the main esker ridge in Cloghanmore.


Kinnitty Eskers
Mullanafawnia
Russellspenn
Curragh Upper
Laughil
Moated Site
Annaghmore and Anna
Colmanstown
Ballyroe
Rapemills or Boolinarig River
Cloncarban
Clonbeale Beg Glebe
Coagh Lower
Ballynamona Glebe
Garrysallagh Glebe
128
Kiltubbrid Island
Rathure North
Rathnure North
Coagh Upper
Rathgibbon North
Knockbarron
Holy Well
Clonbeale More
Clooneen
Rathure South
Pass
Rathnure South
Moated Site
Coole
Rathgibbon South
Pass Br
Pass Cross Rds
Knockbarron Cross Rds
Barrow
Rathgibbon Cross Rds
Streamstown
Ballinree
Droughville
Drumcullen Br
Motte
Church
The Walk
Killyon
Cloghanmore
Carrig Br
Kinnitty
Cionn Eitigh
Killaun
R440
Camcor River
Kyle
Clonfosse Br
Osierbrook
R421
Ballincur
Killmure
Little Br
Clonbrone
Fortel Br
Breaghmore
Ballyshane
Lowertown
Kilmaine
Derrykeel
Fortel
Fortel
Foirtil
PO
Breaghmore Br
Fortel Cross Rds
Bellhill
Cumber Lower
Courtland or Viewmount
Glebe
Derrybeg
Clonlee
© Ordnance Survey Ireland


Kinnitty Eskers
N
0 250 500 1,000 1,500
Meters


Kinnitty Eskers
N
0
250
500
Meters
© Ordnance Survey Ireland



LIDAR image of the Kinnitty Eskers at Knockbarron (Feehan, 2013, image by Pat Healy).