
EDC 36: Torrance Meanders (River Kelvin)

Grid reference: NS 63212, 73905

Site type: Natural landform

Site ownership: Not known

Current use: Agricultural land

Field surveyor: Strathclyde RIGS Group

Current geological designations: None

Date visited: October 2009

Site map

(Figure 36) Remnant Meanders of the River Kelvin Location Map

Summary description

Inactive river channel remnants, interrupting arable fields and partially infilled with aquatic vegetation. They form three meanders (two with complex form) that are separated by the artificially straightened, deepened and leveed channel of the Kelvin, which is approximately 200 years old. The two meanders on the northern side have outer banks incised into a glacial fluvial terrace.

Viewed together, the meanders allow reconstruction of a 1.6km reach of the naturally meandering Kelvin. Although they have the appearance of oxbows, they appear not to result from natural meander cutoff and so are genetically not oxbows.

EDC 36: Stratigraphy and rock types

Age: Holocene Formation: Alluvium

Rock type: Clay, silt, sand and gravel

Assessment of site value

Access and safety

Aspect/Description

Road access and parking For the two northern meanders, best access is path along S side of Hayston Golf Club – park ca.1km away either at clubhouse with permission, or in Hayston and then cross footbridge over Kelvin. Alternative is to park in Torrance and walk disused railway path. Access to southern meander more awkward – park at Bogton ca.800m away?

Safety of access Easy crossing arable fields to viewpoints over the meanders.

Safety of exposure Wholly safe to overview, though the meanders themselves are flooded. Permission to visit Required with regard to possible damage to crops.

Current condition Only the overall channel planforms, and their (degraded) steep outer banks, survive.

Current conflicting activities Scrub growth partly obscures the steep channel banks in places.

Restricting conditions Site divided by River Kelvin into two halves, with no nearby bridge.

Nature of exposure Natural landforms.

Culture, heritage & economic

Historic, archaeological & literary associations (not researched yet) Important glimpse into landscape before river was straightened and floodplain 'tamed'; links to farming history and era of large-scale land engineering / Improvement. Rating: 6.

Aesthetic landscape Surprising & intriguing natural features in otherwise 'tamed' landscape — but only really striking in aerial views. Rating: 4.

History of earth sciences None known. Rating: 0.

Economic geology History of water resource control?. Rating: 1.

EDC 36: Geoscientific merit

EDC 36: Torrance Meanders (River Kelvin). Geoscientific merit.

Total Geoscientific merit score 11

Current site value

Community Little visited and unassuming, but northern part very close to. Rating: 3.

Core Path linking settlements, and to popular golf course.

Education Virtually unique opportunity to illuminate the 'natural' Kelvin, and contrast with the artificial channel. Also demonstrates meander confinement by glaci-fluvial terraces. Potential somewhat limited by lack of preserved/visible landform detail. Rating: 5.

Fragility and potential use of the site

Fragility Natural Overgrowth, Agricultural Dumping / infilling?

Potential use School, Multi-disciplinary (already a bio LNCS)

Geodiversity value

Most comparable rivers in the Central Belt have been straightened or artificially confined. Although many do have similar remnant meanders, this is certainly the best example in East Dunbartonshire. (Broomhill 'Oxbow' in Kirkintilloch is more degraded, and bisected by the upraised EDC office site; a remnant meander at Cadder is also degraded and incorporated into a golf course development.)

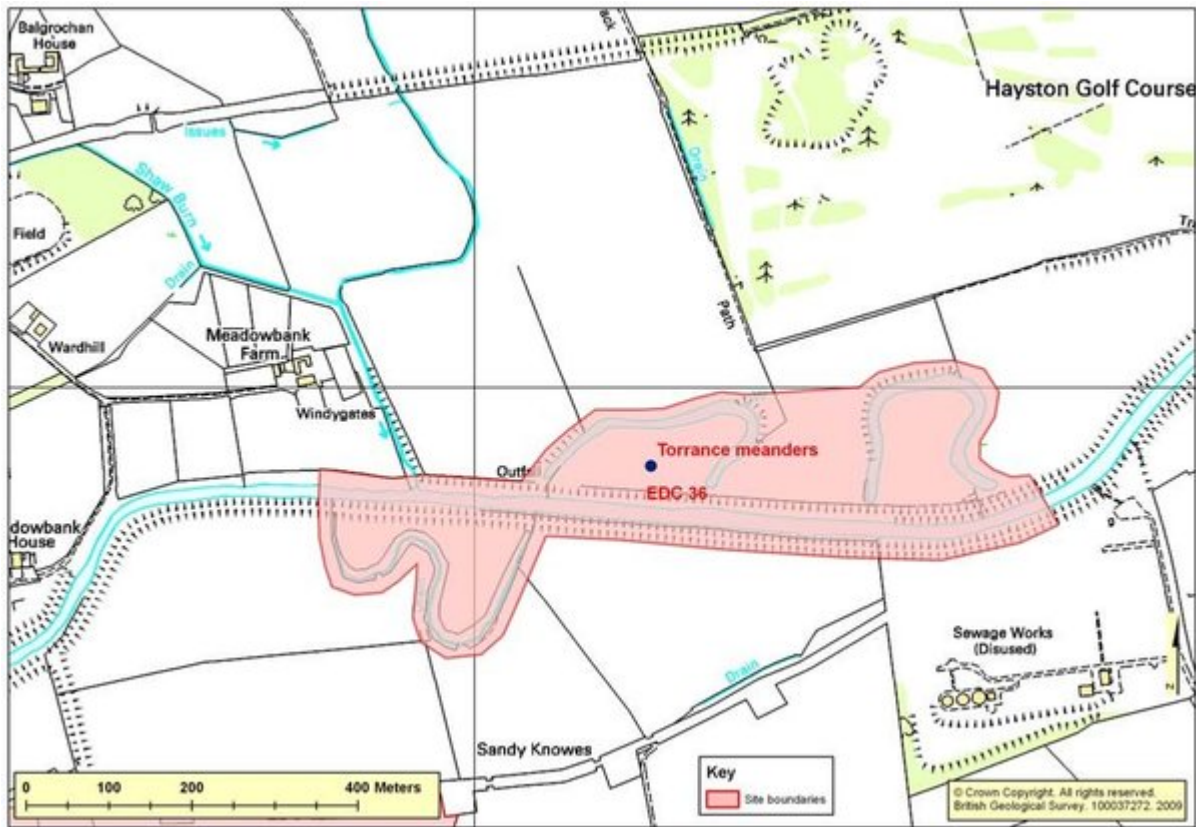
Whereas the River Kelvin Meanders (Bearsden) site demonstrates active processes, this Torrance Meanders site is quite distinct as it is an inactive relict of a lost river regime. The geodiversity value of this site is enhanced by its rarity and particular potential for helping local people understand changing land-use on the floodplain. Rating: 3.

N.B. Some context provided by Tipping R. et al (2008). The chronology and long term dynamics of a low energy river system: the Kelvin Valley, central Scotland. Earth Surface Processes & Landforms 33 p910–922

Photographs

(Photo 220) Aerial view of three remnant meanders, abandoned when the River Kelvin channel was artificially straightened.

Bibliography



(Figure 36) Remnant Meanders of the River Kelvin location map.

GeoScientific Merit	Rarity	Quality	Literature/ Collections	1st
Litho Stratigraphy	0	0	0	<input type="checkbox"/>
Sedimentology	0	0	0	<input type="checkbox"/>
Igneous/Mineral/ Metamorphic Geology	0	0	0	<input type="checkbox"/>
Structural Geology	0	0	0	<input type="checkbox"/>
Palaeontology	0	0	0	<input type="checkbox"/>
Geomorphology	5	4	2	<input checked="" type="checkbox"/>

EDC 36: Torrance Meanders (River Kelvin). Geoscientific merit.



(Photo 220) Aerial view of three remnant meanders, abandoned when the River Kelvin channel was artificially straightened.