



TECHNICAL NOTE NO. 2- WHAT IS THE LIKELIHOOD OF IMPACTING ARCHAEOLOGY IN THE COURSE OF DEVELOPMENT

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Prediction of impacts on archaeological heritage

There are currently no published analytical methods or models for predicting the impact of a development on archaeological heritage as an unknown number of sites may potentially be present. Predictions are usually based on a heuristic. For example, if the Record of Monuments and Places (RMP) indicates archaeological sites within a particular radius of a development the archaeological assessor may state that there is a likelihood of previously unknown sites or monument being present. However, these assertions represent little more than educated guesswork, and different assessors will come to differing conclusions.

Landscape location and archaeological heritage

In other cases rough prediction analysis has been carried out in relation to the type of landscape location and some locations screened out as unlikely locations for archaeology. Table 1 lists the types of landscape found in Ireland and notes the types of archaeological heritage found in each. As can be seen archaeological sites have been found in all landscape locations. The conclusion is that there are no landscape locations in Ireland that can be definitively shown to be free of archaeological heritage. Old bridges and quaysides have been found in rivers, megalithic tombs on mountain tops and extensive trackways and platforms in peat bogs. This is the case because the entire island of Ireland has been altered by people and is a cultural artefact. There are no locations on the island where it can be stated that there is no likelihood of archaeological heritage occurring.

Landscape Location	Archaeological Heritage Type
Pasture	Ringfort, burial, house, structures, etc.
Arable	Ringfort, burial, house, structures, etc.
Urban	Proto-urban, Medieval, post-medieval, structures
Raised bog	Trackways, platforms, traps, artefacts
River	Bridges, quays, weirs, mills, artefacts
Estuary	Boats, mills, fishtraps
Upland	Huts, cairns, tombs, structures, field systems
Mountain	Cairns, megalithic tombs, enclosures
Blanket bog	Field systems, enclosures, tombs, etc.
Forestry plantation	Ringfort, burial, house, structures, etc.
Under sea	Shipwrecks, drowned landscapes and settlement

Table 1. Types of landscape and associated archaeological sites.

A quantitative approach

Taking a quantitative approach there are about 150,000 archaeological sites included in the RMP in an area of 11,976,000 ha, a ratio of one site per 80ha. Taking account of the unknown potential sites will increase the number of sites per hectare by a factor that can be estimated using information from recent archaeological investigations. All large-scale infrastructure projects developed under the National Development Plan have resulted in the discovery of large numbers of archaeological sites. The Bord Gais pipeline to the west construction corridor was 335 km long and impacted an area of 1,005 ha. During the course of construction 190 archaeological sites were impacted, 1 every 5.3 ha (Grogan *et al.* 2007, 5-9).



Similarly, during the construction of the Cork to Dublin gas pipeline 96 monuments were impacted over a distance of 222 km, 1 site every 5.5 ha (McQuade *et al.* 2009, xiii). During the construction of the M8 motorway from Ballycuddahy, Co. Laois to Dunkettle, Co. Cork 1 site was found every 5.8 ha (*ibid.* xiii). Along the line of the Fermoy to Watergrasshill section of the M8 Motorway there was one find every 3.73 ha, and in the vicinity of Cashel on the Cashel bypass there was 1 site every 1.88 ha. Taking a figure of 1 site per 5 ha, for example, and scaling it to the land area of Ireland suggests that as many as 2.4 million sites remain identified. What these comparisons suggest is that the RMP which includes c.150,000 sites may include somewhere around 6% of the total potential sites. This quantitative approach suggests that any development has the potential to impact archaeology and this risk cannot be ruled out without the deployment of field-based assessment methods.

References

Grogan *et al.* 2007. *The Bronze Age landscapes of the pipeline to the west*. Dublin, Wordwell.

McQuade *et al.* 2009. *In the shadow of the Galtees: archaeological excavations along the N8 Cashel to Mitchelstown Road Scheme*. Dublin. NRA Scheme Monographs 4.