

## Examples of landscape identification and assessment in Ireland

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### Introduction:

The identification and assessment of landscape, mainly to aid evidence-based, integrated spatial planning has taken place in Ireland to an increasing degree in the last decade. It has happened largely on a project basis, and has been driven by the vision of particular organisations, especially the Heritage Council, Landscape Alliance Ireland and the Irish Landscape Institute. The chief executive of the Heritage Council, Michael Starrett, was due to jointly give this presentation, but sends his apologies to the workshop as he has not been able to travel due to other commitments.

The Heritage Council has promoted the need for integrated evaluation of the built and natural environment, and human responses to the environment, since its inception in 1995. The Council has been actively involved in educational initiatives, and has published excellent research and guidance on landscape identification and assessment, most recently with a publication earlier this year, *Historic Landscape Characterisation: Best Practice Guidance*.<sup>1</sup>

Ireland is currently engaged in drafting its National Landscape Strategy, led by the Department of Arts, Heritage and the Gaeltacht. It is intended to have a document finalised before the end of 2013 to set out the ways and means that Ireland will comply with the European Landscape Convention.

### *Landscape Character Assessment:*

The European Landscape Character Assessment Initiative (ELCAI), in which Landscape Alliance Ireland took part, produced its final report in 2005.<sup>2</sup> It created a European classification (LANMAP2<sup>3</sup>) which classified 30 landscape types in Ireland (excluding Northern Ireland<sup>4</sup>), with two dominant types – Atlantic lowland and Atlantic hills, both dominated by rocks and pastures [map 4.12].<sup>5</sup> In the absence of a national landscape classification / typology, the ELCAI research relied heavily on two pilot LCA projects which were commissioned by the Heritage Council, namely a pilot landscape characterisation study in County Clare in 2000 and a more detailed LCA for the same county, published in 2004.

The first Heritage Council study used desk study information and overlaid and analysed a range of GIS datasets to subdivide the landscape into a number of landscape character types. Historic landscape characterisation (HLC) was done at land parcel scale. The more comprehensive and detailed LCA done for County Clare in 2004 covers seascapes and integrates HLC into the LCA process, and used public consultation to inform the assessment. The character areas and types are clearly mapped and described in detail. The assessment includes a robust and evidence-based analysis of the forces for change acting on each character area, and contains detailed principles for landscape management. It has been the basis for separate evaluation work on sensitivity and capacity.

Due to the relationship developed between the local authority and the Heritage Council, County Clare partnered the Heritage Council in its training initiative in landscape character assessment, which commenced in 2009. This all-island, multi-disciplinary CPD training course was developed in

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<sup>1</sup> Lambrick, G. Hind, J. Wain, I. 2013. Kilkenny, Heritage Council.

<sup>2</sup> Wascher D.M. (ed). 2005. *European Landscape Character Areas – typologies, cartography and indicators for the assessment of sustainable landscapes*. Final Project Report. Annex II, Table II.11. Landscape types of the European landscape typology for Ireland.

<sup>3</sup> Pan-European landscape database project funded under the Fifth Framework Programme, with mapping at a scale of 1:2,000,000, and a four-level hierarchical classification of landscape types.

<sup>4</sup> Northern Ireland produced a national landscape character map in 2000.

<sup>5</sup> *Historic Landscape Characterisation Guidance* Contains (in Appendix B) an outline hierarchical (three level) classification of historic landscape character types (HCTS).

partnership with professional institutes, local authorities, local communities and the Landscape Observatory of Catalonia, in accordance with Article 6B of the ELC.

A separate outcome of the Council's engagement with LCA is the publication of *Historic Landscape Characterisation in Ireland: Best Practice Guidance*. This sets out the identification, description and assessment stages of HLC and covers the project management matters to consider such as the nature of consultation, data management and the presentation of the report. It sets out the principles and broad approach which should be followed across a range of applications and scales of study, in light of a review of past HLC projects in Ireland.

One of the first landscape initiatives done by an Irish state body was the 1999 landscape analysis carried out by the commercial state forestry company Coillte. The organisation has a landscape policy aimed at landscape protection and enhancement. Long term Forest Management Plans (FMPs) for all 320 forests were developed, all of which incorporate a landscape design plan and existing biodiversity plan and take into account environmental, social, and economic policies as required in Article 5D of the ELC. Landscape quality objectives are the subject of consultation during the FMP review process.

### *Experiences of local authority LCA*

Draft landscape and landscape assessment guidelines were issued in 2000 by the then Department of the Environment and Local Government, however these were not redrafted to take account of the ELC and were never formally published. Many local authorities have undertaken LCA to inform their county development plans, aided to a greater or lesser degree by these draft guidelines. However, a number of issues diluted the potential strengths of these studies, as outlined in a research report published by the Heritage Council in 2006: *Landscape Character Assessment (LCA) in Ireland: Baseline Audit and Evaluation*<sup>6</sup>:

- Mapping was generally schematic and not on an Ordnance Survey base
- In only around a third of counties had extensive use been made of national GIS datasets
- Only one LCA fully incorporated HLC into the assessment process
- Only around a third of LCAs included stakeholder consultation as part of the process
- Only around two-thirds of LCAs gave a reliable and meaningful reflection of the principal variations in landscape character
- There was considerable variation in the content and length of the LCAs
- Fewer than half systematically considered forces for change affecting the landscape
- There was significant variation in the way judgements about landscape change were presented
- Less than a third of these LCAs made a clear distinction between characterisation and judgements
- There was consistency in classification across county boundaries in fewer than a fifth of cases
- Only one LCA gave full consideration to seascapes and none included townscape assessment
- Only around one third of those involved in preparation or use of the LCAs had had any LCA training.

It was found that landscape policy proposals were often not related to the landscape character areas. Few LCAs have been used for landscape management, probably reflecting a general lack of resources and expertise within local authorities. Of the potential uses of LCA, most related to spatial planning, however LCAs were seen by some as too detailed for forward planning and too superficial for development management. Landscape capacity applications and land management applications were under-developed by local authorities.

The situation since that publication has improved as has the depth of the process with the adoption of HLC in several local authorities. *Historic Landscape Characterisation* notes that HLC has been

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<sup>6</sup> Julie Martin Associates in association with Alison Farmer Associates. 2006. *Landscape Character Assessment (LCA) in Ireland: Baseline Audit and Evaluation*. Kilkenny, Heritage Council.

carried out to date in Counties Limerick, Clare, Laois, Offaly, Roscommon, Westmeath, Louth and parts of several other counties.

### *LCA usage for landscape Conservation*

The Tara Skryne landscape conservation area pilot project is a local authority initiative supported by the Heritage Council. It was born of intense debate about the route of a motorway through an important mythical, royal and symbolic area. The County Meath Development Plan's Landscape Character Assessment states that the Historic Tara Skryne area is considered to be of exceptional value and of international importance. Following confirmation of the choice of motorway route the local authority, Meath County Council, proposed in its development plan 2007-2013 to designate the historic Tara Skryne area as a Landscape Conservation Area.<sup>7</sup> It was agreed that the Tara Skryne pilot, led by Dr Loreto Guinan, Heritage Officer, would evaluate this statutory designation as a mechanism for the delivery of a proactive approach to landscape management. The research phase reviewed existing published material, collated on available geology, soils, geomorphology, topography, archaeological sites, rivers, historical OS mapping data, aerial photography and LiDAR data. A draft document was issued for public consultation in 2010 and intensive rounds of public meetings were held to raise awareness and develop a participative process. It was intended to make a participatory landscape action plan for the area and develop protocols and training tools for local authority staff. It was also intended to establish a dedicated GIS to present, display and analyse the data as an important tool in the management of the landscape. However, some dissenting voices among the community – amplified by some local representatives and media – have led to the process being suspended.

### **Some national identification and assessment systems and projects under the wider 'landscape' umbrella**

#### *Integrated land form, land cover and land use plans, data series and projects:*

The identification and assessment of landscape elements have occurred in many relevant sectors of Irish public administration but to date these initiatives have invariably not been classified as 'landscape' actions. However, awareness is improving of the need to identify all the interdependent elements of the landscape resource, and human impacts on it, in order to fully assess it. There are many state agencies, departments and research institutes that have an active interest in land form, land use, land cover and cultural heritage data, which have initiated GIS mapping projects in recent years. Some of these are now layered with the data of several organisations and come close to producing the detail that will be required to make complete landscape identification and assessment. However they are traditional 'top down' services and with very few exceptions are not open to input from communities, associations or NGOs, and so omit the experiential and participatory aspects of landscape that are essential to fulfilling the requirements of Article 6 of the ELC.

Public availability of GIS datasets fulfils the requirements of the EU INSPIRE Directive. This directive has put a focus on the use of searchable, integrated GIS databases for the storage and transmission of data about the environment.<sup>8</sup> For example, the Environmental Protection Agency (EPA) has published the 'ENVision' mapping viewer [illus], which hosts data from the EPA, the Ordnance Survey of Ireland (OSI), the Geological Survey of Ireland (GSI), Teagasc (the agriculture and food development authority), the National Parks and Wildlife Service (NPWS) of the Department of Arts, Heritage and the Gaeltacht and the Marine Institute. This viewer allows a considerable number of layers to be overlaid, so the viewer can take a snapshot of many diverse landscape elements, factors and protective measures, such as surface water quality and soil data, and see data on

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<sup>7</sup> This designation was introduced in the Planning and Development Act 2000 (section 204) but had not previously been implemented (no such area has designated to date).

<sup>8</sup> See Irish Spatial Data Exchange <http://catalogue.isde.ie/> which hosts Irish spatial data information.

the risks associated with these indicators. This system has branched out into discrete map viewers which cover specific concerns such as the location of historic mines and mineral deposits.<sup>9</sup>

Identification of the marine environment is quite advanced in Ireland. The Irish National Seabed Survey (INSS) and INFOMAR<sup>10</sup> inshore seabed surveys were undertaken by the GSI, the Marine Institute and partners, and a *Best Practice Guide in Seascape Assessment* published.<sup>11</sup> The Integrated Marine Plan for Ireland *Harnessing our Ocean Wealth* (2012) seeks to take the identification and assessment of the marine environment to the next steps of protection, management and development. The plan aims to develop an integrated approach to marine and coastal planning and licensing to assist with managing resources effectively and sustainably and manage potential conflicts and ensure harmonisation with coastal / terrestrial planning. This objective would seem to be Integrated Coastal Zone Management – a long-time concern of the Heritage Council – in all but name.

The Department of the Environment, Community and Local Government developed *Myplan.ie* in 2012 to provide publicly accessible spatial planning data on a GIS base.<sup>12</sup> It contains information about development plans and other spatial information which is relevant to planning decision-making (census, heritage sites, flood maps, patterns of housing development, etc). The viewer is able to overlay and analyse the data. The information is live and is updated remotely by the organisations which supply the data.

The NPWS has developed an online national habitat map, which is supplemented by datasets and subject reports available online. The NPWS has published several guidelines for national survey and conservation assessment of types of habitats.<sup>13</sup> A pilot project was carried out in the Galway region in 2009 by the EPA, NPWS and the Biodiversity Office for County Galway with the aim of producing a high resolution land use land cover habitat map. The pilot was deemed to be a success as it produced a high quality draft map of the area (far higher than achieved using the old Corine system).

The National Biodiversity Data Centre, which was established by the Heritage Council in 2007 in co-operation with the NPWS, has created a new online mapping system (distribution mapping and modelling) with provision for entering information onto the records. It has also held identification and recording workshops since 2009, to improve identification and field skills of biological groups and raising standards of data collection and management.

The Discovery Programme, an archaeological research body funded by the Heritage Council, has undertaken a number of landscape-related projects. The use of LiDAR (light detecting and ranging) data has enabled surveys to gather new information on historically important sites. The Programme currently uses FLIMAP LiDAR (a helicopter mounted system with three sensors) to produce data with a ground resolution of close to 10cm. The project has modelled the data of LiDAR projects for the World Heritage Sites of Skellig Michael, County Kerry, and Brú na Boinne, County Meath.

The National Inventory of Architectural Heritage, a unit of the Department of Arts, Heritage and the Gaeltacht, publishes buildings and gardens surveys online at [www.buildingsofireland.ie](http://www.buildingsofireland.ie). The gardens survey identifies sites of historical, design or species importance and gives an initial assessment of the survival of historic landscape features. This resource has identified c.6000 designed landscape sites to date, however not all potential sites are yet included. The long-term objective is to create a register of historic gardens and designed landscapes.

Trinity College Dublin has created an online database of the first ever detailed land survey carried out on a national scale, the 1650s Down Survey of Ireland, which was undertaken to assist in transferring

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<sup>9</sup> Historic Mine Sites – Inventory and Risk Classification Project, a joint study between EPA and GSI in 2009. [www.gis.epa.ie/envisionmines/](http://www.gis.epa.ie/envisionmines/)

<sup>10</sup> Integrated Mapping for the Sustainable Development of Ireland's Marine Resources. [www.infomar.ie](http://www.infomar.ie)

<sup>11</sup> Hill M et al. 2001. Dublin, Marine Institute

<sup>12</sup> The viewer is available online at [www.myplan.ie](http://www.myplan.ie).

<sup>13</sup> See for example, *National survey of limestone pavement and associated habitats in Ireland*, Irish Wildlife Manuals No. 73. 2013. Department of Arts, Heritage and the Gaeltacht; and *The National Vegetation Database: guidelines and standards for the Collection and storage of vegetation data in Ireland*. 2010. Department of Arts, Heritage and the Gaeltacht.

ownership to loyal Protestants. The website contains digital images of the surviving maps, the written descriptions of each barony and parish that accompanied the maps, and related contemporaneous sources in a GIS, which has 19<sup>th</sup> century and modern mapping layers and satellite imagery.

### *Landscape identification and assessment at a local level:*

The Heritage Council carried out a Waterway Corridor Studies project of the River Shannon, Royal and Grand Canals and associated waterways between 2002 and 2005.<sup>14</sup> The project sought to encourage recognition of the significance, value and sensitivity of the waterway corridor as a geographic entity in socio-economic and heritage terms. The studies contain a great deal of research, analysis and recommendations. The project produced an interactive map, a searchable database and the baseline surveys of the natural, archaeological and architectural heritage of the Shannon, as well as planning, socio-economic and landscape documents. Detailed studies of five areas were done, with separate reports on natural heritage, cultural heritage, industrial heritage protected landscapes, landscape character, visual appraisal, and planning and socio-economic contexts.

The Heritage Council established the role of heritage officer in the Irish local authority system in 1999. While coverage is not universal, where a heritage officer is in place they make a county heritage plan with a small budget which comes from the Heritage Council. Local landscape identification and assessment projects have been initiated and carried out under the auspices of many county heritage plans. They are supported and developed by a heritage forum consisting of the heritage officer, local elected representatives, local authority staff, representatives of some government bodies, community groups and interested individuals. These forums produce excellent examples of the types of locally generated heritage and landscape-related actions that are proposed in the ELC. Landscape identification projects have also been carried out in partnership with state bodies, such as a project on the geological heritage of County Meath with the GSI.

The Bere Island Conservation Plan, completed in 2002, had the considerable aim of shaping the sustainable future of this small offshore island in Co Cork. The plan was developed by Cork County Council and the Heritage Council with the full involvement of the islanders, who worked hard to develop strategies to protect and manage their landscape. The conservation plan built on the work of the Bantry Bay Coastal Zone Charter 1998-2000, which was part of an EU demonstration project on integrated coastal zone management. The Plan was a candidate in the 2013 landscape awards.

### *Examples of localised data series and projects outside the 'landscape' umbrella:*

The Irish Spatial Data Exchange hosts regional and local project information, for example a landscape survey of Great and Little Sugar Loaf mountains, County Wicklow, done in 2010. The dataset includes survey information on the landscape character, ecology, geology, archaeology and built heritage of the Sugar Loaf area with recommended Special Amenity Area Order boundary, core and buffer areas.

Much research of benefit has been made possible by the European Regional Development Fund. The Tellus Border project is an ongoing EU INTERREG IVA funded regional mapping project Collecting geo-environmental data on soils, water and rocks across six border counties in Ireland – Donegal, Sligo, Leitrim, Cavan, Monaghan and Louth.<sup>15</sup> The project continues the analysis of data from the completed Tellus project in Northern Ireland.

The GSI GeoUrban Dublin Project is an on-going initiative that has mapped the landform of the Dublin area.<sup>16</sup> It Contains many datasets such as marine; quaternary; geotechnical; bedrock; minerals; heritage (geological); depths; geohazards; groundwater; hillshade; and ordnance survey maps. There

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<sup>14</sup> <http://www.heritageCouncil.ie/inland-waterways/initiatives/inland-waterway-Corridors-studies/>

<sup>15</sup> Tellus Border is a cross-border initiative between the Geological Survey of Northern Ireland, the Geological Survey of Ireland, Dundalk Institute of Technology and Queen's University Belfast. The Part funded by D/ECLG and DENI.

<sup>16</sup> [www.gsi.ie/geourban](http://www.gsi.ie/geourban)

is a 2d viewer and 3d modelling and it is intended to produce 4d visualisation of the geological structure and environment of the greater Dublin region and some specific areas.

The Royal Irish Academy established the Irish Historic Towns Atlas series in 1981, which is part of a European scheme. Maps of a selection of Irish towns are produced to record their topographical development. Most recently a digital atlas has been produced of Derry / Londonderry (launched this month), as a UK City of Culture project.<sup>17</sup>

### *Designations – national and international – which require integrated landscape identification, assessment and management*

There are a number of international and national landscape designations for special landscapes, such as world heritage sites, geoparks and biospheres, all of which require integrated landscape identification and assessment as well as protection, management and planning measures.

The landscape of the Burren and Cliffs of Moher, County Clare, was declared a UNESCO Geopark in 2011. It is a glacio-karst landscape with magnificent Atlantic coastal landforms, unique floral diversity and fascinating archaeology set in a landscape managed by traditional farming practices and amid a thriving culture of Irish music, dance, food and sport. Research had been done on the archaeology, caves, botany, hydrology, tourism, geology and ecology of the area over many years. The Burrenbeo Trust, an innovative and exemplary partnership between local farmers, businesses, communities and state bodies has built upon the previous identification and assessment work. It includes the Burren Farming for Conservation programme, which is a locally inspired, integrated approach to protecting, managing and developing the area and has been assisted by the idea of forming a Community charter. The Burrenbeo project was awarded the Council of Europe's European Diploma of Protected Areas this September.

The Copper Coast Geopark in Co Waterford was declared a UNESCO Geopark in 2004 due to its geological heritage that reflects the variety of environments under which the area has evolved over the last 460 million years. As part of the EU Atlanterra Project<sup>18</sup> a project is underway extending the Copper Coast Geopark into the offshore via INFOMAR mapping (3D data, shipping heritage including wrecks). This is the first global geopark to undertake such work.

## CONCLUSION

The foregoing examples of identification and assessment illustrate how technological advances in GIS can be utilised to share information on landscape in ways not possible just a few years ago. They also illustrate the energy and work that is devoted to landscapes and their users by the people who live in them, who have an emotional and economic need to survive, thrive and protect families and interests, and who recognise that this is bound up with the way that they care for their places. To get the best from state use of technology and the energy of local commitment there is a need for education, awareness and structures which result in meaningful participation. Identifying and assessing require knowledge, while ascribing values requires trust, a readiness to listen and common ground. This is a major challenge, but is not insurmountable. There is a growing awareness in Ireland of what Terry O'Regan of Landscape Alliance Ireland calls 'deep' landscape, which is slowly overcoming the superficial consideration of landscape as a scenic and subjective skin upon the land. It is hoped that the Irish National Landscape Strategy will be an impetus for this transformation to 'deep' landscape.

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<sup>17</sup> A joint Collaboration between Derry City Council's Heritage and Museum Service, The Royal Irish Academy and Queen's University Belfast. See [www.ria.ie/digitalatlasderry](http://www.ria.ie/digitalatlasderry)

<sup>18</sup> <http://www.coppercoastgeopark.com/about-us/29-green-mines-atlanterra-project.html>. [accessed 25.9.13]