The Irish Coastal Landscape

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Introduction

The coastal landscapes of Ireland are among its best known scenic attributes. As an island, surrounded by water, the coast has a high visibility in people’s perceptions. It both isolates from, and provides a link to, the outside world. Until the advent of air travel, the coast was the last thing the traveller saw when leaving and the first thing to see when arriving in Ireland. The childhood memories of most residents almost certainly include visits to the coast, while some of the biggest attractions for tourists are on the coast. Since the earliest days of recreational travelling, writers have commented (usually favourably) on the beauty of Irish coastal landscapes, artists have drawn and painted them and musicians have celebrated them in tune and song (Figure 1).

The Irish coastal landscape, however, is a dynamic one that is affected by natural processes and human activities and is subject to change over time. Similarly, human value judgements also change and for example, a structure on the landscape that is regarded as purely functional by one generation might be viewed as attractive in a later one. Perceptions of the coastal landscape also vary amongst people and one of the particular challenges of management lies in the often-conflicting views of those who live and/or work at the coast and those who visit it on a short or long-term basis. An essential piece of infrastructure to the former, for example, might be regarded as an unattractive intrusion by the latter.

What is the coastal landscape?

The coastal landscape involves both marine and land-based components and it is this juxtaposition that is important in its definition. The observer’s perception of the coastal landscape can be quite different depending on whether it is viewed from land or from sea. Sometimes the term seascape is used to refer to this combined unit. Hill et al. (2001, p1.) regard seascapes as including the following:

- Views from land to sea
- Views from sea to land
- Views along the coastline
- The effect on landscape of the conjunction of sea and land
Figure 1. An 1863 engraving of The Giant’s Causeway. A coastal landscape long celebrated by travellers and preserved in drawings, paintings, and photographs, it was already a popular attraction for visitors in the 1730s. It was famously described by Dr Johnson (1709-1784) as ‘Worth seeing, yes; but not worth going to see.’

The coastal landscape includes both natural and human elements. The most iconic coastal landscapes in Ireland, for example, include high cliffs (e.g., Cliffs of Moher, Slieve League), scenic beaches (e.g., Stocker Strand, Ballybunion), islands (e.g., Skelligs, Aran Islands) and historical sites (e.g., Dun Aengus, Dunluce Castle). In addition, there are several well known cityscapes and seaside resorts. The landscape importance of these landscape features is reflected in their patterns of use; travellers more commonly visit them simply to see them rather than to engage in an activity. Even a beach in Ireland is seen primarily as an element of the landscape and only secondarily as a recreational space, simply because of climatic conditions. This perception is well exemplified by the habit of driving to the coast and simply looking at it through a car window.

The Irish coastal landscape

In global terms, the Irish coastal landscape is quite young. Although it has a basement of solid rock this was sculpted by ice during the last million years by successive glaciations. The modern landscape began to evolve after the last ice sheet retreated as recently as 14,000 years ago and sea levels began to stabilise around the present level about 7,000 years ago. During this period, the first humans set foot on Ireland and the coast has been evolving under the combined influence of natural processes and human activities ever since, albeit with varying levels of human activity. The scale of this
interaction is quite unique among Irish landscapes, because the dynamism of natural coastal processes and geomorphological change is unparalleled in any other landscape. Similarly, because of the long history of exploitation of coastal resources, maritime trade, and defensive structures (Figure 2), the coastal landscape has experienced a high degree of human influence that continues to the present time. Contemporary coastal landscapes are the accumulated result of centuries and even millennia of change.

Figure 2. Dun Aengus, Aran Islands, a historic site dominates the coastal landscape (http://www.conference.ie/imageupload/Dun_Aengus.jpg)

The changing coastal landscape

As in the past, change in the Irish coastal landscape continues to occur under the influence of both nature and humans. On the natural side, waves and tides continue to erode, and thus maintain, cliffs. The eroded material provides boulders, gravel, and sand to sustain beaches and mud for marshes. Beaches and marshes strive to achieve equilibrium with changing environmental conditions through erosion and accumulation. The biggest challenge for preserving coastal landscape quality is to enable these processes to continue. With a global rise in sea level, it is likely that the rates of coastal erosion will accelerate and that coasts will become more dynamic as they respond to these changed conditions. The fact that contemporary Irish coastal landscapes evolved and persisted during several thousand years of sea level change, however, show the coast’s resilience to such natural changes. Sea level rise and coastal erosion thus poses no threat to the natural coastal landscape – on the contrary, erosion is a vital process in maintaining landscapes.
Changes in human activities also modify the landscape. New roads are constructed, some railways are abandoned, old buildings decay while others are built, some towns grow while others decline, some coastal towns change their character and function, new buildings have different styles to old ones, and new technologies result in new structures. In the nineteenth century, the ‘reclamation’ of saltmarshes and tidal flats for agriculture was one of the biggest impacts on Irish coastal landscapes. The embankments built then, and the low-lying fields that now exist behind them, dramatically changed the landscape at that time. The lower relative value of agricultural land and high cost of maintaining these areas now poses challenges for the future management of these landscapes. Probably the most widespread (and controversial) examples of the impact of new technologies at present are the emplacement of floating cages and other infrastructure for mariculture in many inshore waters (Figure 3), and the construction of wind turbines both onshore and offshore. The tidal turbine in Strangford Lough is an unusual example of the impacts of a new technology on the landscape (Figure 4).

Figure 3. These two modern changes to the landscape of Lough Swilly (the new house and the salmon cages) are most likely in conflict with each other.
Challenges in Irish coastal landscape management

Managing change in the landscape is a big challenge. In part this stems from the fact that various individuals and groups have different perceptions of, and attitudes to, change. Wind turbines as a new technology seem to be loved and hated with equal passion. Second homes at the coast are similarly controversial; to some they provide a comfortable place from which to enjoy the coast, to some they are simply an investment, while to others they are an undesirable intrusion on a scenic landscape.

Natural coastal changes are often unnoticed, but the more dramatic changes such as rapid coastal erosion, are often regarded as undesirable. There were calls for ‘something to be done’ about coastal erosion at Five Finger Strand in Donegal (Figure 5), for example, even though no infrastructure was threatened. Similarly at Stocker Strand in Donegal (Figure 6), there was public pressure to stabilise a small stream that migrated across the beach, eroding some sand dunes. In both cases the changes were entirely natural and no infrastructure was threatened. Furthermore, costly engineering interventions would have permanently altered the landscape. Such perception underlines a need for better appreciation and understanding of the processes of natural coastal change.
Figure 5. The view of Five Finger Strand includes an eroding dune. This is part of a natural coastal dynamism that shapes the landscape and permits the coast to adjust to changing conditions.

Figure 6. The small stream at Stocker Strand migrates across the beach. Calls to stabilise the stream would have resulted in an unnecessary intrusion into this scenic landscape.
The human and natural elements of the coastal landscape interact with each other closely. Erosion can pose a threat to existing roads, railways, houses and agricultural land. There are essentially three ways of coping with this, each of which has its own implications: hard defences, soft defences, or retreat (Cooper and McKenna, 2008a). In terms of new buildings, roads or railways of course, the issue can be avoided by simply not building in areas that may be susceptible to erosion.

Hard defences typically involve the construction of walls or emplacement of rock armour. These structures in turn, affect the natural landscape by degrading its appearance (Figure 7) but, more importantly, by cutting off the sediment that is delivered to the coast through erosion, they may cause beaches to become narrower, change from sand to gravel, or ultimately disappear. The beaches at Bray, County Wicklow, and Portrush, County Antrim, have diminished greatly since walls were built that cut off the sand stored in coastal dunes and cliffs, from the beach systems. When walls are built, storms cause enhanced erosion of sand from the beach and it is not subsequently replaced by sand stored in dunes or cliffs. Related efforts to halt the loss of sand by building groynes across beaches not only change the appearance of the beach but also reduce the supply of sand to areas further downdrift, causing increased erosion there. The desire to defend land is so ingrained that even temporary structures such as caravans are commonly defended in this way (Figure 8).

The use of soft defences is not widespread in Ireland, but there have been minor beach nourishments at Rosslare for example, and several attempts at dune restoration. Soft defences are less visually intrusive than hard defences, but they are still resisting natural patterns of change (Cooper...
and McKenna, 2008b) and require an unending commitment that can be
difficult to justify economically.

The third approach is to retreat (or live with natural processes). On
coasts such as that of Wexford, that have been eroding at rapid rates
during the historical period, the coast seeks to achieve equilibrium between
sediment losses from beaches and the introduction of new sediment by
cliff erosion. Over the years many houses have been undermined as these
natural processes continue. The houses have gone but the coast continues
to function.

Many cultural heritage sites such as coastal defensive positions and
archaeological sites are under threat from erosion (Figure 2) and here the
dilemma faced by managers is whether to defend the historic built heritage
or sustain natural processes. A more radical step, but one that may have
to be considered, is the relocation of infrastructure such as railway lines,
roads, and even historical buildings. This is not without precedent; the
Cape Hatteras Lighthouse in North Carolina and the Belle Tout Lighthouse
in Beach Head, England were moved back from eroding cliffs (McGlashan,
2003); roads in many east coast US states have been reconstructed landward
of their former position after coastal erosion; and salt marshes have been
reactivated by a conscious decision to retreat from the coast and abandon
old sea defences in southeast England.

A particular dilemma is posed in relation to coastal landscapes that
are no longer viable, such as reclaimed marshes that were converted
to agricultural fields in the nineteenth century and earlier. The cost of
maintaining the defences and pumping water from the fields is in some
cases becoming unviable and these fields are now being abandoned. There
are several instances where fields are now reverting to salt marshes. This
change, which simply reflects current economic conditions, is similar to
that being pursued as a deliberate strategy in some parts of England called
‘managed retreat’ or managed realignment’ whereby the sea defences are
deliberately moved landward.

Human value judgements about what infrastructure constitutes an
addition to or detracts from the coastal landscape will continue to change
and will no doubt be reflected in evolving county and regional plans.
The recent economic boom, however, exposed some serious weaknesses
in current practice that was unable to contain an unprecedented rate of
construction driven by speculation (Cooper and McKenna, 2009). As a result
many parts of the Irish coast have become covered in largely unoccupied
houses and apartments. Unlike earlier phases of infrastructural development,
these were constructed primarily for the purpose of making money for
their owner by appreciating in value rather than by occupation or any
commercial activity. The scale of coastal development was unprecedented
and it transformed much of the Irish coastal landscape. Such was the speed
of the subsequent bust that many buildings remain unfinished shells that
scar the landscape (Figure 9).
The knowledge that there is a strong interaction between the natural and human elements of coastal landscapes provides a potentially sound basis for their future management. However, the apparently current perception that any human impact on natural processes or impact by natural processes on coastal infrastructure can simply be addressed by building sea defences is short-sighted and damaging to the coastal landscape. Steps necessary to preserve the beauty of the changing coastal landscape must include a halt on building infrastructure in areas that are susceptible to erosion. This entirely proactive step can be achieved by proper land-use zoning and enforcement in County Development Plans in Ireland or Area Plans in Northern Ireland. What to do with existing badly sited infrastructure at a time of increased flooding and coastal erosion risk remains a challenge.

References

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