Dear Colleagues

The Department of Culture Heritage & the Gaeltacht (National Monuments Service and Built Heritage Policy) welcomes the opportunity to make observations on the draft Climate Change Sectoral Adaptation Plan of the Department of Agriculture, Food and the Marine (D/AFM).

Climate change poses risks and provides opportunities for all sectors and we look forward to continuing cooperation and consultation with D/AFM under the Climate Action Plan 2019 and the implementation of our respective Sectoral Adaptation Plans. We believe there are many cross-sectoral areas where we can usefully collaborate.

Heritage has been shown to be an effective means of communicating the urgency of the immediate and future impacts of climate change to the general public. There is also much to be learned from heritage structures and sites on how past societies adapted to previous climatic changes.

Over 144,000 archaeological monuments are recorded by the Department of Culture, Heritage and the Gaeltacht. Nationally there are over 45,000 protected structures and numerous other structures in architectural conservation areas protected by the local authorities. Our Department appreciates the wide support of the D/AFM in developing future policies and strategies for safeguarding and ensuring the future survival of archaeological monuments, historic settlements and their respective protected structures, within the unique and distinctive character of the Irish landscape.

It is hoped that policies and strategies will build on the existing cooperation between the Department and D/AFM in relation to the protection of Ireland’s archaeological and architectural heritage.

We are grateful to the D/AFM for your own comments on our draft adaptation plan and please find attached some detailed comments and observations on your Draft Plan and its Objectives and we look forward to future engagement with you.

Regards

Michael MacDonagh
Chief Archaeologist
National Monuments Service
Comments of the National Monuments Service

Most of the 144,000 archaeological monuments in the country are dispersed throughout the countryside in privately farmed holdings. The current provisions of the National Monuments Acts are focused on enforcing general protections for archaeological monuments and in providing for the maintenance and access to monuments in State Care only. The maintenance and conservation of monuments in the ownership of private citizens is not a requirement under the National Monuments Acts. It is noted that some 1,600 Recorded Monuments and Protected Structures are situated on the Coillte forest estate, both of which are subject to the regulatory controls for forestry activities administered by the Forest Service of D/AFM. The requirement for maintenance of Protected Structures is provided for under the Planning and Development Acts for both state and private owners. It should be noted that the Department of Culture, Heritage and the Gaeltacht has an existing Code of Practice with Coillte and there is potential to develop enhanced co-operation in relation to maintenance and conservation of monuments and Protected Structures through this or other cross-sector mechanisms.

The Common Agricultural Policy (CAP) provides support payments through Pillar 1 to farmers and is administered by D/AFM. The umbrella of GAEC as a condition of the basic payment is wider in its scope than the provisions of the National Monuments Acts as it refers not just to the prevention of damage to monuments but to their survival in good environmental condition. The regulation of the Basic Payment Scheme is under the remit of D/AFM as are other more specialised measures such as the current preventative maintenance of monuments in Glas and EIPs, all of which contribute critically to the conservation and maintenance of monuments in the farmed landscapes.

There are areas of distinct overlap, where this Department would like to collaborate with D/AFM in providing best practice policy and guidance on the range of threats to the archaeological resource posed by climate change. In this, we wish to focus adaptation activities and funding measures to where the threats are greatest, to raise awareness among farmers, foresters and farm organisations through the Knowledge Transfer groups established by D/AFM and allied facilities developed by Teagasc and in the development of bespoke research with partners such as Teagasc, the Forest Service and Coillte aimed to measure the efficacy of climate adaptation measures over time. Such research is required (in addition to the case studies already undertaken) to measure empirically the effects of severe weather events and wildfires on sensitive archaeological resources.

The priority climate vulnerabilities and threats include the following:

1. Increasing summer temperatures and decrease in summer precipitation leading to increased tillage and horticultural acreage\(^1\). Research\(^2\) has demonstrated that monuments in tillage are incrementally damaged over time. The character of this damage can include:

\(1\) Department of Agriculture, Food and the Marine Agriculture, Forest and Seafood Sectoral Adaptation Plan p. 4

The gradual planning flat of upstanding earthworks surviving within arable
The deeper cultivation or regular subsoiling of flattened monuments in existing arable
The effective deepening of cultivation caused by erosion, peat shrinkage and compaction while ploughing to a constant depth
Disturbance, breakage and chemical deterioration of archaeological objects
Physical damage and desiccation of organically preserved sites and objects caused by drainage of previously waterlogged ditches, pits and fosses

As farming is considered exempted development for planning purposes, there are no restrictions on a farmer changing from pasture to tillage. However with planned and managed practice, shifts of cultivation practice can be achieved while avoiding and minimising harm to the cultural heritage. The NMS would propose that monuments and their environs, including those with no visible expression could be included as EFA’s and thus provide the farmer with their requirements in terms of biodiversity needs, protecting biodiversity and archaeology at the same time.

Another negative impact of climate change and a move to increasing horticulture and tillage in terms of the farming landscape are the removal of existing field boundaries. Many of these, most particularly townland boundaries may be historic in nature and they are a very distinctive aspect of the Irish countryside. The current measures administered by the D/AFM in terms of land-restructuring under EIA Agriculture allow for the removal of field boundaries and their replacement new field-boundaries which may offset the loss of biodiversity but does not offset the impact on the historic landscape or on the distinctive appearance of the Irish countryside.

A positive outcome of drier summers is the increased visibility of cropmarks and parch marks indicative of previously unidentified archaeological activity. In 2018, a particularly dry summer, there were approximately 800 referrals of newly identified monuments in contrast with 127 such referrals in 2017. The inclusion of newly identified monuments in the Historic Environment Viewer in a timely manner and downloaded to LPIS (http://webgis.archaeology.ie/historicenvironment/) assists D/AFM and farmers in how land is managed into the future.

2. Another climate change threat to the landscape and to monuments in that landscape are uncontrolled fires. These are most likely in upland areas of rough grazing and in forestry. Both landscapes are home to some of our most characteristic prehistoric monuments – megalithic tombs, rock art and hillforts. Ancient stone monument such as megaliths and rock art, which can date to over 5000 years old would be susceptible to heat damage in high temperatures. Adaptive measures are required beyond what is specified in the current guidance for Prescribed Burning Code of Practice – Ireland published by D/AFM which relates to the controlled application of fire to a pre-determined area in contrast with wildfire as a consequence of climate change which will by its very nature be an uncontrolled fire at flexible speeds and

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33 Department of Agriculture, Food and the Marine Agriculture, Forest and Seafood Sectoral Adaptation Plan p. 7 Table 1 – Average Annual Changes

directions with the ability to jump roads, rivers and fires-breaks. It may also be useful to collate data and carry out research in relation to damage already created by historical fires—such as that described as affecting the north-west of Ireland in 2011 some areas of which had substantial fires whose hot spots were identified by MODIS satellite imagery, operated by NASA.\(^5\)

3. The impacts of increased storm events resulting in wind-throw on or adjacent to archaeological monuments\(^6\) is one which needs to be managed with the risk in the vicinity reduced by careful adaptive management of the tree cover around and adjacent to the monuments in question. Current funding mechanisms for the enhancement of setbacks and other open areas within forests and other open areas within forests should be enhanced into the future.

It is possible to anticipate the areas of forestry (forests sited on exposed, windy sites with poor drainage\(^7\)) most at risk from endemic wind-throw and plan accordingly.\(^8\) However this may not be possible in relation to catastrophic wind-throw but we can all learn from previous events. Bespoke research looking at impacts on monuments in forestry where extensive windthrow has taken place may be useful in this regard.

Increased general levels of precipitation in the winter will lead to increased animal poaching which in close proximity to earthwork monuments could damage fragile deposits under the sod. Correct stocking levels appropriate to the time of year and vulnerability of the soils could be an easily achieved adaptive measure.

**Comments of Built Heritage Policy**

Traditional farm buildings and their associated structures and landscapes are an important part of the nation’s built heritage. They are a finite resource and are under threat from a variety of sources, including changing farming practices and increasing pressure for new development in the countryside. In addition to their architectural and historical value, traditional farm structures and landscapes have an economic value forming as they do, an important tourism resource.

The traditional rural landscape of Ireland enhances the quality of life of all the community. It contributes to a local identity and sense of place through the use of local materials and local styles of construction. Farm buildings and field boundary structures are not only important to the character of a locality but retain important historical information on settlement patterns and agricultural practices of the past. Some farms are located within former historic demesnes and may include surviving features of these designed

\(^5\) Adaptation Planning – Developing Resilience to Climate Change in the Irish Agriculture and Forest Sector p.24.

\(^6\) Department of Agriculture, Food and the Marine Agriculture, Forest and Seafood Sectoral Adaptation Plan p. 24 Table 2 – Extreme Events – Precipitation

\(^7\) Department of Agriculture, Food and the Marine Agriculture, Forest and Seafood Sectoral Adaptation Plan p. Table 2 – Extreme Events –

\(^8\) Adaptation Planning – Developing Resilience to Climate Change in the Irish Agriculture and Forest Sector p. 22.
landscapes. For these, and many other reasons, we believe there is a need to view the architectural heritage of the traditional farm in its widest context.

The National Inventory of Architectural Heritage, a unit of this Department, has recorded many historic farm buildings and associated structures. It has also published an inventory of gardens and designed landscapes. These are available to view at www.buildingsofireland.ie

Changes in farming practice and land-use have the potential to impact on architectural heritage in several ways including:

- Changes to or redundancy of historic farm buildings
- Loss of historic field boundaries, including stone walls, gates and gate piers and the like
- Lack of availability of suitable materials for the repair of historic buildings such as timber and thatch
- Loss of historic planted features from demesne landscapes

Where changing practices may make some historic farm buildings no longer fit for purpose, we recommend that D/AFM should take steps to actively promote their appropriate adaptation and reuse. The GLAS Traditional Farm Buildings Grant Scheme is a good example of how historic agricultural buildings and structures can be conserved for active agricultural use and could provide a template for further investment in the area.

There are many heritage assets in the ownership or control of D/AFM and its agencies. These not only include agricultural structures, for example much of Coillte lands include former historic demesnes often containing buildings and landscape features associated with the original country house. These are a valuable resource as part of the nation’s architectural heritage and in addition they have the potential to enhance the recreational use of the countryside and woodlands.

Climate change will bring a requirement for the enhanced maintenance and repair programmes for historic structures. There will be a need for owners and custodians, including D/AFM, to build capacity for maintenance and repair of these structures and to ensure that they are protected and assessed for vulnerability to climate risk: flooding, storm damage, wildfires, etc. D/AFM may wish to consider retaining its own architectural heritage expertise to ensure the appropriate adaptation and conservation of the architectural heritage under its control.

Comments on Seafood – Background Documentation

The Department of Culture, Heritage and the Gaeltacht has mapped wreck sites (a wreck is any sunken vessel over 100 years old) for which a precise location is known around our coast and in our harbours on our Wreck Viewer at https://www.archaeology.ie/underwater-archaeology/wreck-viewer. This represents less than a quarter of all known historically documented wrecks. There are a number of ways in which climate change impacts relating to the seafood sector will impact on heritage resources, both buildings, monuments and wrecks into the
future. Changes in precipitation and hydrology\(^9\) will require increased dredging and thus add to the potential to identify known or previously unknown wrecks like the Drogheda Boat, the 16\(^{th}\) century coastal trader found in the River Boyne in 2005. Increased sea levels will of course impact on many of our towns and cities which were almost exclusively founded in proximity to both rivers and coasts, particularly in estuarine locations. Maladaptation to sea level rise with the demolition of historic structures such as bridges, mills etc. will impact negatively upon the historic resource.

Extreme weather events such as storm surges\(^{10}\) and wave height have the potential to damage coastal structures including historic structures sited specifically at coastal locations. Some particular classes of monuments such as promontory forts, Martello towers, signal towers, quays, jetties, slips, kelp-drying platforms, weirs, fish-traps etc. are by their very nature and purpose located at the coast. In this way as is recorded in Appendix 1 – Table of Consequences – there can be a major loss or decline in long-term quality of valued species/habitats or landscapes.

Such storm surges and changes at sea-bed level also have the potential to uncover previously unknown monuments such as wrecks, shell middens (A refuse heap surviving as a layer or spread. These may be of any date from the Mesolithic Period 8000 BC to Medieval times), fulachta fia and fish traps so the impacts may be both positive and negative.

ENDS

\(^9\) Department of Agriculture, Food and the Marine, Agriculture, Forest, Seafood Sectoral Adaptation Plan, p 4.

\(^{10}\) Department of Agriculture, Food and the Marine, Agriculture, Forest, Seafood Sectoral Adaptation Plan, p 8.