



Case Study 5

Vulnerability Assessment of Coastal Archaeological Sites, Lough Foyle, NI

Keywords

Coast, historic environment, landscape, erosion, sea-level rise, archaeology

Eroding sand cliff showing toppled WW2 defences (concrete blocks and metal posts for barbed wire) in the foreground, and another concrete block still in situ but exposed at the top of the cliff. Darker layers are exposed bands of peat.

Photo credit: Dr Kieran Westley

Location: Lough Foyle

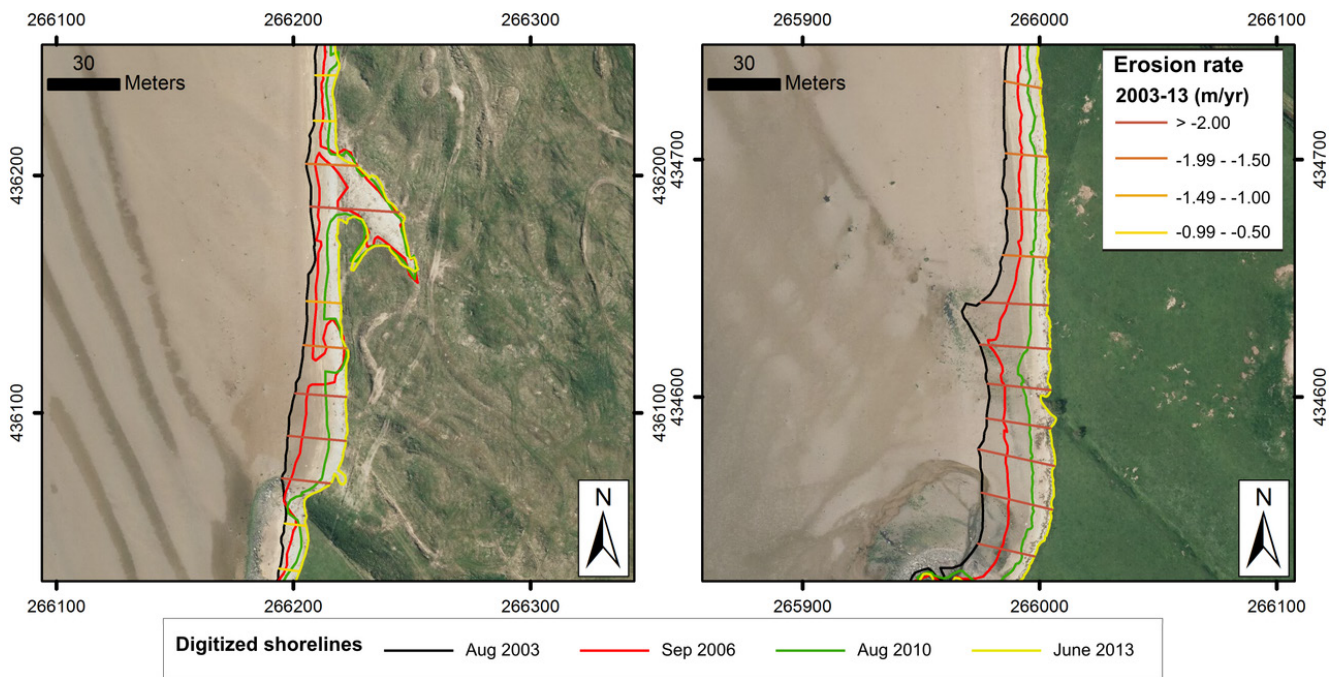
Collaborating Organisations: Mr Rory McNeary (Formerly Ulster University, currently NI Department for Communities), Ulster University

Date: 2011–2013; 2014–2015; 2016–2017

Project funder: NI Environment Agency (NIEA)

Reported by: Dr Kieran Westley, Ulster University

Aim: A series of research studies aimed to identify and assess the quality of the strategic risk mapping of recorded historic sites and monuments located along the Lough Foyle coastline (Westley, 2018; Westley, 2015; McNeary & Westley, 2013).



Examples showing zones of major retreat (c. 20–30m) within the 10 years. Base image is a 2013 orthophoto, digitized shorelines for 4 orthophoto rounds are superimposed with transects showing calculated erosion rate

Photo credit: Orthophoto © Crown Copyright 2017; image from Westley (2018)

Introduction

Studies initially undertook extensive desk-based research across the province to provide a strategic mapping overview of climate change-related risks. Subsequent follow-up desk-based research and field survey aimed to quantify past and potential climate change impacts to the historic environment and the landscape along the Lough Foyle shoreline in NI.

Key Research Findings

- The Lough Foyle shoreline has a complex pattern of change, with zones of significant erosion interspersed with areas of stability.
- Evidence suggests that ongoing and future climate change impacts, such as enhanced coastal erosion driven by intensified storms and sea-level rise, will be destructive or problematic for coastal archaeological heritage along Lough Foyle.
- This however is partly mitigated by the relatively low archaeological significance of many of the historic sites located along the Lough Foyle shoreline.

Outcomes

A series of reports were prepared which outline risks, impacts and recommendations. These reports were submitted to the NIEA (Historic Environment Directorate). The latest research undertaken between 2016 and 2017, led to a methodological discussion on identifying ways to better understand and refine coastal erosion risks to historic sites and landscapes caused by climate change. This information enabled the informing and prioritisation of adaptation actions.