NC2 Case studies

Case Study 4

Review of NI's Sea Defences and Coastal Data

Keywords

Coast, habitats, heritage, sea-level rise, erosion, infrastructure, communities

Annalong shows gabion baskets placed to reinforce the Mourne path.

Photo credit: Professor Andrew Cooper

Location: NI Coast

Collaborating Organisations: Professor Jackson, Ulster University and National Trust

Date: 2015-2016; 2017-2018

Project funder: National Trust

Reported by: Professor Andrew Cooper, Ulster University

Aim: Two studies assessed the distribution of sea defences in sheltered loughs and open seas around the NI Coast, and reviewed the accessibility of coastal data needed to inform decision making on adaptation measures (Cooper et al.,2016; Cooper and Jackson, 2018).

Introduction

NI ocean and sea-lough coasts face increasing risks from coastal erosion and marine flooding caused by the projected impacts of climate change. The coastal and ocean region is a valuable asset to NI, as the landscape is home to diverse coastal and marine habitats, whilst sustaining industrial, recreational and commercial activities.

Key Research Findings

- No systematic monitoring or assessment of physical coastal change is currently undertaken. The subsequent lack of data means that understanding of coastal behaviour and processes is limited
- Developments permitted at the coast where the dynamics of coastal processes are poorly understood will lead to direct environmental impacts and likely loss of natural amenities such as sandy beaches and dunes
- Lack of proper coastal and marine data means that planning for present and future infrastructure cannot rely on robust information.
- Around 32% of the coast is currently armoured, which is damaging to the natural environment (causing, for example, beach narrowing, scouring, creation of knock-on effects down drift, loss of amenity).

Conclusion

In conclusion, adaptation efforts on the coastline are hampered by a reliance on hard defences in response to coastal change (which is damaging to the natural landscape, whilst also incurring costs of installation and ongoing maintenance), a lack of suitable coastal baseline data, and the absence of a strategic shoreline management plan.

Outcomes

Submitted a report outlining findings and recommendations to relevant government departments in 2018 which states that there is a need for NI to adopt a strategic approach to shoreline management and coastal defence designation, which would inform climate change adaptation plans.

West Strand Portrush, shows the sea defences being protected by additional rock armour. The beach here has lowered and a high tide beach is often absent since the sea walls were built.

Photo credit: Professor Andrew Cooper