



Briefing for the Public Petitions Committee

Petition Number: [PE01459](#)

Main Petitioner: James A Mackie

Subject: Total review of Coastal Erosion protocols and responsibilities

Calls on the Parliament to urge the Scottish Government to order a total review of Coastal Erosion protocols, responsibilities, decisions and the roles of national and Local Governments, Quangos, agencies and the private sector as the current situation is not saving coast lines and communities.

Background

Coastal change is a natural, ongoing process that has always happened. As sea water meets cliffs and shores, it causes sediment or rocks to be broken down and washed out to sea. In some instances, this material may be moved to a different part of the coast and deposited in large quantities, causing 'accretion' - the opposite of erosion, where shorelines may advance or build up with sediment over time. Erosion can happen under any conditions, but its rate tends to increase when waves are powerful and water levels are high - for instance during storms or in high winds.

The way erosion changes different parts of our coast depends largely on geology. Erosion of coasts with hard rocks e.g. the granites of Aberdeenshire tends to be significantly slower than where coastal geology is formed out of sedimentary deposits such as sandstone.

Around 12% of the Scottish coastline is recognised as in a state of erosion as compared to 30% of the coastlines in England and Northern Ireland and 20% in Wales.

As a consequence of the generally much lower population density than south of the border, combined with typically more durable rock types characterising the coast, only about 6% of Scotland's coastlines are defended compared with some 44% of those in England and Wales¹.

Coastal erosion and coastal flooding are often linked. One may lead to another, especially where shorelines separating the sea from flat, low-lying land are eroding. Both coastal erosion and coastal flooding may be exacerbated by climate change, which is causing stormier seas and sea level

¹ Figures taken from CREW (2012) – [Coastal Flooding in Scotland](#)

rises. There is a particular risk of coastal flooding during a storm surge, where storms coincide with high spring tides.

The Climate Change Risk Assessment projections for Scotland² report the potential loss of 45-225 hectares of beach by sea-level rise by the 2020s rising to 193-964 hectares by the 2080s (approximately 3% to 12% of the total area of beaches in Scotland).

The Scottish Environment Protection Agency (SEPA) produced a [National Flood Risk Assessment](#) in December 2011, this found that 125,000 commercial and domestic properties in Scotland were at risk of flooding, and the average annual damage caused by flooding is between £720 and £850 million. The Assessment found that coastal flooding accounts for approximately 17% of all predicted impacts in Scotland.

Coastal management methods fall into two main categories:

- Hard engineering - man-made barriers such as sea walls and groynes, which reduce the impact of waves on the coast.
- Soft engineering - techniques such as beach recharge and saltmarsh creation which use natural materials, features and processes to absorb wave impact. The planting of eroding dunes with marram grass (*Ammophila arenaria*) and lyme grass (*Leymus arenarius*) together with the placement of geotextile or jute membranes and with prevention of public access by the erection of fencing are now common occurrences.

Integrated Coastal Zone Management (ICZM) is a multidisciplinary approach to the sustainable management of coasts. The EU made recommendations, in 2002, on the implementation of ICZM based around a set of core principles, that is: an approach that considers the impacts of human activities at the coast, is inclusive, fitting to local needs, and has national and regional backing. In Scotland ICZM has been implemented by Local Coastal Partnerships. Marine Scotland Science undertake monitoring, research and regulation on certain coastal activities.

Scottish Government Action

The main piece of legislation related to coastal erosion is the Coast Protection Act 1949 which gives local authorities powers to carry out coast protection works. Local Authorities must decide how to fund such works from within the block grant they receive from the Scottish Government.

The main piece of legislation related to coastal flooding is the Flood Risk Management (Scotland) Act 2009 which implements the EU Floods Directive (2007/60/EC). The Act also replaces the provisions of the Flood Prevention

² Cited in CREW (2012)

(Scotland) Act 1961 and contains powers for local authorities to promote flood prevention schemes.

Scotland's Marine Atlas, published by the Scottish Government in March 2011 contains a [map](#) showing the location of 14 coastal flood defence schemes constructed since 1961, 10 coastal protection projects since 2000, and 2 coastal realignment projects.

SEPA has been designated the competent authority with overall responsibility for national strategy and implementation of flood risk management. Local authorities, Scottish Water, and other public bodies have been designated the responsible authorities for effective delivery at the local level.

Management of the Scottish coast has evolved through the formation of seven voluntary Local Coastal Partnerships (LCPs) and the implementation of Shoreline Management Plans (SMPs) on the basis of sediment cells (i.e. areas subject to the same coastal erosion and deposition regimes).

There are eight non-statutory Shoreline Management Plans (SMPs) in Scotland, however, the best developed are those for the coasts of Angus, Fife and the northern (i.e. Scottish) shore of the Solway Firth. Each plan evaluates the natural processes that are acting on a length of shoreline and predicts the way in which it will evolve into the future³.

The Marine (Scotland) Act 2010 introduced a marine planning system comprising a National Marine Plan along with Regional Marine Plans. The [National Marine Plan - pre-consultation Draft](#) was launched in 2011. The document contained a section on coastal protection and flood defence. It set goals for future work in this area:

Short term goals

Major consideration must be given to ensuring that proposed new developments are resilient to climate change over their lifetime and resilient to risks of coastal change and flooding. There is potential resource for beach nourishment material from the seabed although this would be subject to obtaining consent. Beneficial re-use of maintenance dredging spoil is an alternative source. In line with the Scottish Planning Policy development should be avoided in areas of highest vulnerability to coastal change and flooding.

Medium term goals

A precautionary and risk-based approach, in accordance with the sustainable development policies of the UK Administrations, should be taken in terms of understanding emerging evidence on coastal process. Account should be taken of the impacts of climate change throughout the operational life of a development including any de-commissioning period. Marine plan authorities should not consider development which may affect areas at high risk and probability of coastal change unless the impacts upon it can be managed. Marine planning should seek to minimise and

³ CREW (2012)

mitigate any landform changes that an activity or development will have on coastal processes, including sediment movement.

Long term goals

Some local authorities have developed Shoreline Management Plans to guide the management of their coasts. Shoreline Management Plans identify the best way to manage the coast over a long period of time, taking into consideration the social, environmental and economic effects of different ways of protecting communities and land against coastal flooding and erosion.

The pre-consultation Draft is being revised in response to comments made during the pre-consultation. Consultation on the Draft National Marine Plan and Sustainability Appraisal will follow in June 2013.

Scottish Parliament Action

A question⁴ by Marilyn Livingstone MSP lodged in March 2011 in session 3 asked the Scottish Government how it works to combat coastal erosion. The then Minister of the Environment and Climate Change, Roseanna Cunningham MSP response was:

We support the efforts of local authorities who, under the Coast Protection Act 1949, may take any measures they consider necessary or expedient to protect any land in their area from coastal erosion.

In June 2009 Elaine Murray asked⁵ what assistance was available for communities affected by coastal erosion. The then Minister of the Environment, Roseanna Cunningham MSP response explained that:

Local authorities, any part of whose area adjoins the sea, are coast protection authorities under the Coast Protection Act 1949 which provides wide powers to protect any land in their areas from coastal erosion. The Scottish Government is providing record levels of funding to local government in Scotland with £23 billion allocated over the period 2008-10. The vast majority of the funding, including funding on coast protection, will be provided by means of a block grant. The former ring-fenced capital funding for coast protection is now included within the general capital grant. It is each local authority's responsibility to allocate the financial resources available to it on the basis of local needs and priorities having fulfilled statutory obligations and the jointly agreed set of national and local priorities. These include the Scottish Government's key strategic objectives.

On the issue of coastal flooding, the Parliament passed the Bill which is now enacted as the Flood Risk Management (Scotland) Act 2009 during session 3. Prior to the introduction of the Bill, the then Rural Affairs and Environment

⁴ S30-13231

⁵ S3W-24920

Committee, carried out an inquiry into Flooding and Flood Management, which [reported](#) in June 2008.

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