

Changes in asset values on eroding coasts

Technical Summary: FD2623

Joint Defra / EA Flood and Coastal Erosion Risk Management R&D programme

Background to R&D project

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Defra is assessing a number of options designed to enable coastal communities to adapt to coastal erosion risk. To ensure that the assessment of the options is based on the best information available, there is a need to better understand how coastal erosion risk affects local property values. In particular, Defra needs to understand how property values change over time as erosion progresses and as properties are brought closer to the edge of the cliff up to the point that they are uninhabitable.

Main aims and objectives

The objective of the study is to provide information and analysis that will help in the understanding of how property prices respond to coastal erosion risk. The study considers two specific contexts: where there has never been a defence and where there has been a decision to withdraw public investment from publicly funded coast protection works.

The aim of the study is to answer two overall study questions:

1. How do asset values respond to coastal erosion risk?
2. How do asset values in England respond to coastal erosion risk and in particular to a decision to withdraw investment in publicly funded coast protection works?

Results of R&D project

How do asset values respond to erosion risk?

Theory, practical UK evidence and literature from overseas (mainly the US) all suggest that property values decline as the residual life of the property declines. Reductions in value of between 10% and 25% have been reported during the study once the risks of erosion became known. The reductions are expected to increase as the residual life of a property decreases. Since many mortgage lenders require a residual life of 60 years; a property with a residual life of (around) 60 years may only be available to a reduced number of potential buyers (i.e. those who do not require a mortgage). This would reduce demand for the property and is likely to result in a reduced price.



It is important to note, though, that buyers are not always fully informed (and may not fully understand) the risk. This can result in *all* properties within a parish seeing a reduction in value, even those properties not at risk of erosion. The condition of the market is also an over-riding factor in how property values respond. A strong market is one defined by a surplus of buyers, hence, the impact of erosion risk may be masked due to a lack of available properties. Conversely, a weak market (with a surplus of sellers) may exacerbate the property value reduction as buyers look elsewhere, avoiding risky or problem properties.

As a result, it is difficult to precisely define how the erosion curve (the relationship between the at risk property value and time remaining) may relate to a theoretical depreciation curve. Factors, such as premiums paid for sea views may mask the effect of property value reductions such that the erosion curve could lie above the depreciation curve. This is more likely in a strong market. In a weak market, the erosion curve could lie significantly below the depreciation curve.

How do asset values respond in particular to a decision to withdraw investment in publicly funded coast protection works?

Before a decision is made to withdraw investment in defences, a property is usually assumed to have a residual life of 'in perpetuity' giving it 100% of its not at-risk property value. It is unlikely that any discount would be attributed to the property because there would be no assumption that the property is at coastal erosion risk (due to the presence of defences). If a decision is then made to withdraw funding for defences, the residual life of the property would have to be reassessed. In reality, there would be uncertainty over the residual life and this lack of information and knowledge of the risk could mean that the residual life is over-estimated (i.e. assumed to be longer) such that any property price reduction is less.

Overall, the combined (and potentially conflicting) result of all the factors affecting property values is that a decision to withdraw funding could (where the negative factors predominate) result in a significant property price reduction.

R&D Outputs and their Use

The output is in a Technical Report and will be used by Defra to inform policy decisions relating to adaptation on eroding coastlines.

This R&D Technical Summary relates to R&D Project FD2623 and the following R&D output:

R&D Technical Report FD2623/TR – Title. Published July 2009.

Publication Internal Status: Released Internally

External Status: Released to Public Domain

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The above outputs may be downloaded from the Defra/EA Joint R&D FCERM Programme website (www.defra.gov.uk/environ/fcd/research).



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