Natural heritage sites consist of Scotland's flora, fauna, geological and morphological features. Dynamic Coast has identified that the combined threats of coastal flooding and coastal erosion have increased over recent decades and are expected to worsen with climate change. Planning and action is needed now to reduce the impact on Scotland's natural heritage. Dynamic Coast provides the evidence base and advice to inform the Scottish Government and responsible authorities on the pace of coastal change to allow adaptation and increased resilience.

Who will this impact?

- **637 of Scottish Natural Heritage sites (totalling over 12,000 ha),** lie within 50m of the current mean high water spring.
- **One third of this area lies behind undefended soft coast with a risk of erosion**[1] and **less than 1% area** behind **defended artificial coast**.
- Healthy natural coastal features like beaches and dunes provide key protection to landward assets, both natural and manmade.
- Erosion and flooding can cause loss or damage to dune ecosystems, plants and animals living in the nearshore, marshlands and estuaries, and to soil and soft rock, threatening their protected status.
- **Climate change is increasing the risks to the extent and health of Scotland's natural heritage of ecosystems and geomorphology.**

How can Dynamic Coast help you?

- Dynamic Coast provides detailed interactive maps of how your coastline has changed over the last 100 years and informs how this would affect coastal natural heritage as rates of erosion increase toward 2050.
- By site, 4% of all Special Areas of Conservation, 5% of all Special Protection Areas, 3% of all Sites of Special Scientific Interest and 2% of all National Nature Reserves sites are now identified as at risk of coastal erosion by 2050.
- This includes Luce Sands near Stranraer, Baleshare and Kirkibost on North Uist, Morrich More on the Dornoch Firth, and Loch Fleet.
- Dynamic Coast has identified the locations and pace of coastal erosion and its impact on our natural heritage, allowing both local and regional action to be taken to reduce the risk of further erosion and flooding.
- The Dynamic Coast webmaps allow early action to address the risks identified, allowing sites to adapt and enhance resilience whilst there is still time.

What can you do to improve future resilience?

- ✓ To understand how your coast has changed and may change in the future – view the erosion maps here and SEPA's flood maps here.
- ✓ Manage your land use carefully and considerately to impact vulnerable species as little as possible.
- ✓ Help volunteer conservation efforts to enhance habitat diversity.
- ✓ Early adaptation has the potential to greatly reduce future costs.

A window of opportunity

- The science is clear, we have a window of opportunity to put in place plans to adapt and improve the resilience of our coastal ecosystem before coastal erosion and flooding worsens.
- Leading heritage sites are using DynamicCoast.com to plan and Building with Nature to increase their resilience.

Find out more at:

DynamicCoast.com, nature.scot, SEPA.org.uk

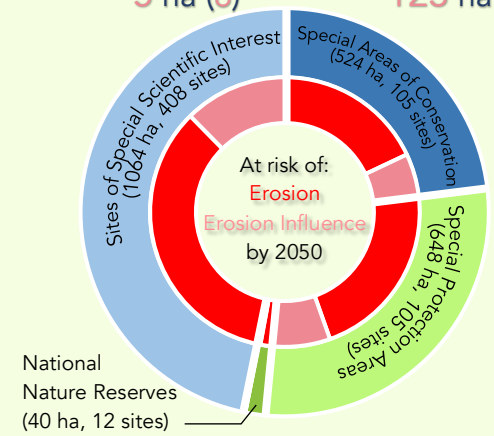
At risk of erosion by 2050:

773 ha (204)
291 ha (204)

400 ha (53)
123 ha (52)

35 ha (6)
5 ha (6)

480 ha (57)
123 ha (52)



What does this show?

'Erosion' figures (red) reflect assets that lie seaward of anticipated 2050 high water mark. 'Erosion Influence' figures (pink) reflect assets within the next 10m inland which may also be affected by erosion and storm damage and

What impact on assets?

Direct risks from storm waves include temporary flooding and/or permanent erosion issues, which can seriously affect coastal ecosystems, as well as cause detrimental changes to sediment sourcing. While erosion and flooding are natural processes and coastal ecosystems can be resilient to them, the increasing rates of change and balance between erosion and accretion are now negatively affecting our ecosystems.

***Existing engineered defences** and their adjacent beaches and dunes are increasingly threatened by rising sea levels, increased storm impact, wave reflection and flood frequency. **Existing natural defences** (beaches, dunes and saltmarsh) are likely to move and narrow.*

Good practice:

*Scottish Natural Heritage and partners follow a Biodiversity **"Route Map to 2020"** to help our cherished natural heritage remain resilient into the future.*[2]

1 Dynamic Coast (2021) National Risk Assessment & Fitton, J.M. (2015) A national coastal erosion risk assessment for Scotland. PhD thesis, University of Glasgow
2 Scottish Natural Heritage (2015) Scottish Biodiversity Strategy – Route Map to 2020. Online report