



Nairn Central Beach Dune Resilience Pilot Project FAQs Sept 2025

What's happening down on Nairn Beach?

There is a pilot project underway between now and Christmas to start building the resilience of the sand dunes on Nairn Central Beach. You've maybe noticed the yellow signs that say 'Protect Our Dunes', well now some practical steps are being taken to help protect the dunes and build their resilience.

What do you mean by building dune resilience?

Dunes are soft structures made purely from sand and can act as natural coastal defence barriers. Dunes naturally erode however, due to strong winds, high tides, sea surges etc., and they are also susceptible to man-induced erosion. We can't control the elements but we can take steps to avoid exacerbating the effects of wind and tide etc., and that's what we mean by building dune resilience. Basically, giving the dunes a helping hand. Provided the dune system at Nairn Central Beach continues to thrive, it will continue to give protection to the links behind.

Why is a dune system referred to as being 'dynamic'?

Dunes are created from beaches with the assistance of wind and vegetation, the two main species being *marram grass* and *lyme grass*. These grasses slow sand movement and allow dunes to form. This is a highly mobile, or dynamic, environment and these two hardy species can withstand constantly shifting sand. Together, the wind, the sand and these two grasses form and shape the dunes. Over time, dunes change shape through the natural process of erosion by the elements - wind, tide and sea surge - and provided the cycle of colonisation by marram and lyme grass continues, then the dunes have great capacity to build and rebuild.

What's the problem with the dunes on Nairn Central beach?

With climate change and sea level rise, increasingly the highest tides are exceeding the MHWS (mean high water spring) and we are seeing more frequent and more powerful storms. These exceptionally high tides, when combined with storm conditions, are capable of removing the front edge of the dune as we saw after the storm at the end of October 2023 which did so much damage to the harbour. The dune can rebuild provided there is a plentiful supply of wind-blown sand and a robust swathe of marram grass to start the process. But the Nairn Central Beach dune system is suffering from loss of dune habitat. This is largely down to encroachment by trees and scrub and also by extensive trampling through the dunes which is suppressing the growth of marram grass, the very thing that stabilises the dune.



Nairn Central Beach November 2023 showing a 2m vertical 'cliff' edge.

Are the dunes on the East Beach suffering in the same way?

No. The East Beach dune system is much more extensive than the Central Beach dune system, with much larger dune volume. The dunes on the East Beach have been assessed as relatively resilient and are considered to be at low risk of erosion either from storms or through sea level rise. This is due to a number of factors including the relative shelter afforded to the East Beach dune system by the Nairn Old Bar.

How has dune resilience been measured at each of Nairn's West and East Beaches?

A report was provided to the Highland Council in November 2023 with a detailed analysis of the resilience of the dunes on the beaches to both the east and west of the river/harbour.

You can read [the Dynamic Active Pathways Nairn Beach report](#) on Highland Council's website .

*To avoid confusion, this report refers to Nairn East Beach and Nairn West Beach (known locally as Central Beach between Harbour and Marine Cottages). Nairn Central Beach is the location of 2025 pilot project.

What is marram grass and what does it do?

Marram grass has long, narrow leaves that are adapted to arid conditions. The leaf is rolled into a cylinder to trap humid air and reduce water loss. Marram grass is adapted to coastal environments and has extensive root networks which bind the sand dune systems together giving shape and stability to the structure.



Pioneering marram grass on mobile dune

How can marram grass stop the dunes eroding?

Marram is the first species to colonise the newest dunes and it responds to being smothered in wind-blown sand. The more sand that accumulates, the more it grows. Hence marram has a way of both naturally building and stabilising a sand dune.

Why do you need to take away the trees? Surely the trees are helping to protect the coast?

In this situation, that's not the case. Woodland scrub is gradually encroaching into the dune system to such an extent that the zone of mobile, functioning sand dune dominated by marram grass is diminishing. If this were allowed to continue, eventually there would be only a narrow strip of mobile sand dune along the seaward edge and a thicket of woodland scrub behind it. Ultimately, with sea level rise, we can expect the shoreline to retreat on the Central Beach by a maximum of 23 meters by 2050 [JBA Consulting, 2023]. Trees would be unable to slow this down but a functioning, dynamic dune system is capable of repair and rebuild after a storm has removed some of the front dune edge, thus slowing down the rate of coastal erosion.

Where are you getting your marram grass transplants from and won't that cause problems elsewhere?

Generally, it is better to use plants of local provenance as they are more likely to thrive after being transplanted as they are adapted to the local conditions. We are planning on transplanting marram grass from Nairn East Beach and locations will be carefully selected so as to avoid inadvertently creating any problems of dune stability. As this is a pilot project, we won't be taking a large quantity of marram grass.

Why are you burning the brash on site, surely this is both air pollution and carbon release?

Any bigger trees will be logged and taken off site. Burning brash is an option once it is dry enough to burn, and this is an efficient way of removing it from the site. Fires are carefully controlled and the technique is used widely where the risk of a fire spreading is low. There is no escaping however that burning brash will release greenhouse gases so the pros and cons of all options will be carefully considered.

Why don't you mulch the brash on site and allow it to compost?

Mulching is an option, but composting enriches the area surrounding the mulch pile and encourages growth of weeds. We really don't want to encourage weeds into the dune system which is naturally low in nutrients and/or provide opportunity for invasive species. We will consider carefully the best option for removing brash.

What are invasive non-native species?

Invasive non-native species are those species which do not naturally occur in an area, region or even country and they have somehow managed to get into the environment. Often these are plants from other countries that have escaped from our gardens or ornamental ponds. Examples are Himalayan balsam and Japanese knotweed both of which are crowding out the native species on the banks of the River Nairn. The problem with invasive species is that they outcompete native species, altering habitats and disrupting ecosystems.

Do we have any invasive non-native species on the Nairn dunes?

Yes, some non-native species have already established themselves in the dunes of Nairn Central Beach, notably Japanese knotweed, orange-peel clematis and Japanese rose and may be others still to be identified.

Are there any particularly special native plants or animals living in the dunes?

Yes, we are extremely fortunate to support colonies of the small blue butterfly, Britain's smallest butterfly, as well as the Grayling butterfly. Special measures to protect and conserve this species are being provided by.....through the Species on the Edge Initiative.... <https://speciesontheedge.co.uk/small-blue-butterfly/>

This tiny butterfly visible in the Spring lives only on kidney vetch which grows in the dunes on Nairn Central Beach. Another good reason to prevent further encroachment of woodland into the dunes.



Small blue butterfly on kidney vetch

Why are you putting up fencing?

The fencing is temporary and will be erected before any marram is transplanted into the dune system. It will be taken down once the marram has established and is sufficiently robust. This temporary fencing is to ensure that the newly transplanted marram is safeguarded from trampling. The fencing also helps reduce wind speed which aids in sand accumulating in the desired area.

For how long will you be restricting access to the beach?

There will be specific areas that we would ask people not to go in during this pilot project, for safety reasons while volunteers are removing trees and scrub and also to avoid trampling on newly planted marram areas. The whole dune system is not being treated during this pilot phase however, so there will be plenty of routes down to the beach avoiding the areas being treated.

What can and can't I do in the dunes?

It would help the dunes to recover if you used only the main access routes through to the beach and avoided walking along the informal path that runs through the dunes parallel to the shore. The four main access points to the Central Beach are currently at the groyne (i.e. the wall beside Marine Cottages); the slipway near the Splash Pad/Strathnairn Café; the Links Car Park and at the Sundancer. Anything to reduce footfall and trampling within the dunes themselves will make a positive contribution to the recovery of the dune system.

Who is paying for this work and who is behind it?

NICE ([Nairn Community Improvement Enterprise](#)) received an £8775 grant from Highland's allocation of Community Led Local Development Funding via Highlands and Islands Climate Hub to deliver initial pilot work between August and December 2025 and more funding is being sought. This has allowed us to appoint Mark Bradfield as part time project coordinator to help us raise public awareness with community and schools and engage local volunteers to help from community groups with interests in conservation and the natural environment such as Green Hive, RSPB and Butterfly Scotland. The project has professional support from the Highlands and Islands Climate Hub, Highland Council Nairn Common Good Officer and from THC Flood Team who commissioned [the Dynamic Active Pathways Nairn Beach report](#) .

How can I help or get involved in protecting our dunes?

We will be holding some volunteer work parties to carry out practical work including installing the temporary fencing, planting marram grass and removing scrub. Its anticipated that most of the work parties will be during October so look out for dates and opportunities being advertised soon.

Where can I find out more about this project and what happens after the pilot phase?

You can contact the project coordinator and team at duneresilience@nicenairn.org.uk

Latest information on the project can be found on the NICE website nicenairn.org.uk and Facebook page.

Anyone interested in helping as a volunteer with Dune Resilience activity should contact Mark above, or Lesley Fraser Green Hive's Volunteering Officer lesley@greenhive.co.uk who is organising several workdays this autumn at Central Beach.