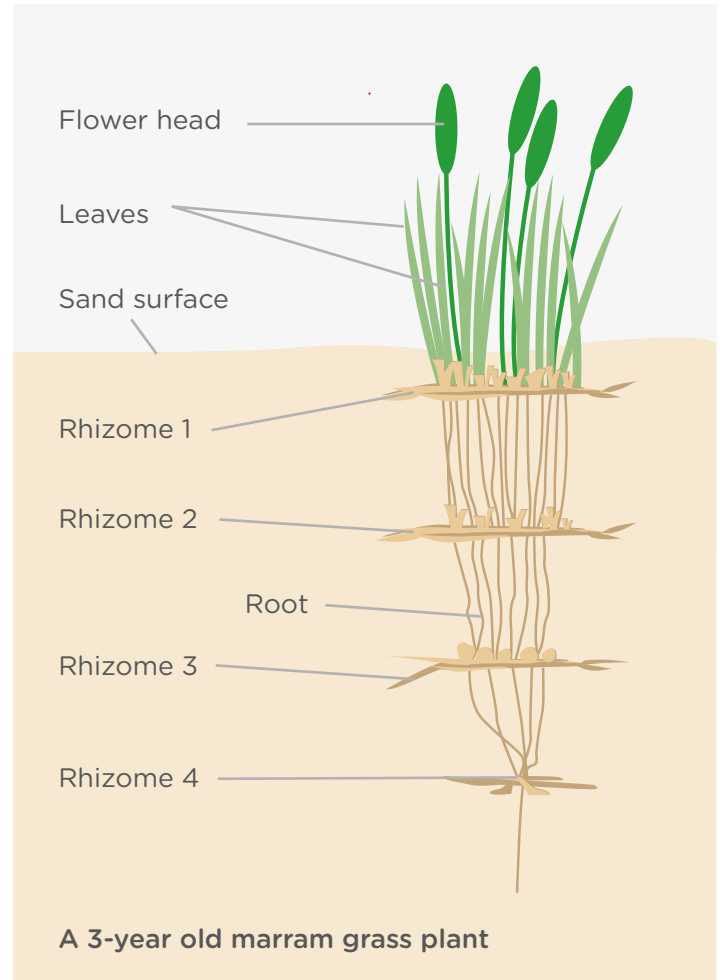


## Fact File: Marram grass (*Ammophila arenaria*)

Marram grass is native to the UK, it is a common species on sand dunes that grows up to 1m in height. It can be found along much of the Welsh coastline throughout the whole year but flowers between July and August.



Marram grass is a dense, spiky coarse grass which is grey-green in colour. Its leaves are rolled and it displays densely-packed, golden flower spikes. Marram grass is a pioneer species and it is specially adapted to live in the arid conditions of a sand dune. It thrives in dynamic open, free draining, low nutrient mobile and semi-fixed sand dunes.

Learn more from this Dynamic Dunes presentation [Habitat Type: Embryo Dunes, Devon - YouTube](#) and [A-Z of Dynamic Dunes and Sand Dune Conservation - YouTube](#)

These resources were created by the Dynamic Dunes project and funded by the National Lottery Heritage Fund and the LIFE Programme. Please note these resources are not available in Welsh.

Please see [www.dynamicdunes.co.uk](http://www.dynamicdunes.co.uk) for more information.



## How has marram grass adapted?

Marram has leaves that can curl into a cylinder in order to protect the stomata on the inside, to limit the loss of water and prevent the plant from drying out in the parched and windy environment of the dunes. The stomata - the openings through which water vapour moves out of plants, are sunk in pits within the curls so they can hold on to as much water as possible. Marram grass is one of nature's best conservators of water, and as a xerophyte (This is a plant that needs very little water) it can survive where many species cannot.

It has long root systems which help to stabilise the sand to create embryo dunes and semi-fixed yellow dunes. The roots can survive under large amounts of sand and can be meters long. Shoots can grow rapidly out of the top of the dune, outpacing the rate of sand deposition. Creeping stems called rhizomes grow width ways and then send out more root structures along their length, stabilising the dune further. In this way, marram enables the yellow dunes to expand over large areas and reach impressive heights.

## What is marram grass used for?

Marram grass was once harvested and weaved into mats for barn roofs, nets for fishing, rope and shoes. It could even be used to make paper. Traditionally, families had their own unofficial patch of dune from which they could harvest grass, but the whole village would often be involved in collecting the grass.

The role of marram grass in stabilising and growing the dunes has been known for many years. The dunes were important sea defences and the harvesting of marram was banned for centuries along the coast of Anglesey, The government of Queen Elizabeth I recognised that it prevented erosion of the dunes as the uprooting of the grass became a punishable offence.

To learn more and explore people's relationship with sand dunes and how the natural resources they provide have been used over time then try out these activities:

[activity-plan-sand-dunes-through-time-newborough-warren.pdf \(cyfoethnaturiol.cymru\)](#)

[resource-cards-sand-dunes-through-time-newborough-warren.pdf \(cyfoethnaturiol.cymru\)](#)

## Why is Marram grass so important?

Marram grass helps to trap sand and to build up sand dunes. Sand dunes provide natural protection for low lying land and settlements, especially important in the face of sea level rise and increased storminess due to climate change. Sand dunes help maintaining water flows and supporting vital pollinators for our crops, such as bees and butterflies. They are also great places to get exercise and enjoy the outdoors.

Sand dunes are home to lots of rare and important plants and animals and they represent one of the most natural and species-rich habitats in Wales. Just one example is the sand lizard that can be found on coastal dune systems where marram is the main source of cover. It is a very rare lizard in Wales and can be found in only certain locations along the North Wales coast.

Marram grass can be used as relatively cheap, natural, soft engineering strategy for example, if there is a need to build up sand dunes in front of a roads, railway lines or houses vulnerable to erosion or flooding.

## Learning in, learning about, and learning for the natural environment.

### Looking for more learning resources, information and data?

Please contact: [education@naturalresourceswales.gov.uk](mailto:education@naturalresourceswales.gov.uk) or go to <https://naturalresources.wales/learning>

Alternative format; large print or another language, please contact: [enquiries@naturalresourceswales.gov.uk](mailto:enquiries@naturalresourceswales.gov.uk)  
**0300 065 3000**